Vol. XXI. — No. 12. December 1939.

BULLETIN
OF THE
INTERNATIONAL RAILWAY CONGRESS
ASSOCIATION
(ENGLISH EDITION)

[621. 133.2 & 669.3]

Does copper still retain its importance in locomotive construction?

By Dr. A. KARSTEN.

The first locomotive, the Rocket (*), put into service over 100 years ago, was already fitted with a copper firebox. It is interesting to note that even today the copper firebox holds the field on most railway systems, including the largest in the world.

Attention need only be called to the 4 British main-line railway companies, the French National Railways Company, and particularly the German State Railways, and this in spite of the extraordinarily increased boiler and firebox outputs met with in the newest designs of locomotives in recent years on the one hand, and on the other the American lead in the use of steel fireboxes. The fact that in Europe (excluding Russia) certainly 99 % of all steam locomotives are working with copper fireboxes may indeed by fairly taken as a proof that copper still retains the preference for such work.

The principal reasons for the still existing supremacy of the copper firebox are :—

(1) the physical and chemical properties of copper, which are particularly suited to locomotive work;

(2) the creation of new heat-resisting copper alloys such as « Kuprodur »;

(3) the modern methods of firebox construction and repair;

(4) the possibility of re-using old firebox material.

Copper has about 6 times the heat conducting power of steel, is chemically resistant to combustion gases and easily worked on account of its ductility. The particularly high resistance to deterioration through vibration and the toughness of copper, or of its alloys suitable for use in locomotive work, ensure a long life to any items made of them which are subject in railway service to unavoidable jarring and vibration.

The fact that the ordinary mechanical resistance of copper decreases with an increase in temperature does not diminish its practical value for firebox work; on the contrary, its extraordinarily high heat-conducting properties always prevent local or temporary accumulations of heat in the plates and require taking into consideration.

A short time ago Reichsbahnrat K. Koch reported in the journal *Die Wärme*, Vol. 61, No. 16, page 293, 1938,

(*) The « Rocket » (1829) was not, of course, the first locomotive, but was the first efficient one incorporating features still found in most locomotives (*Editorial note*).

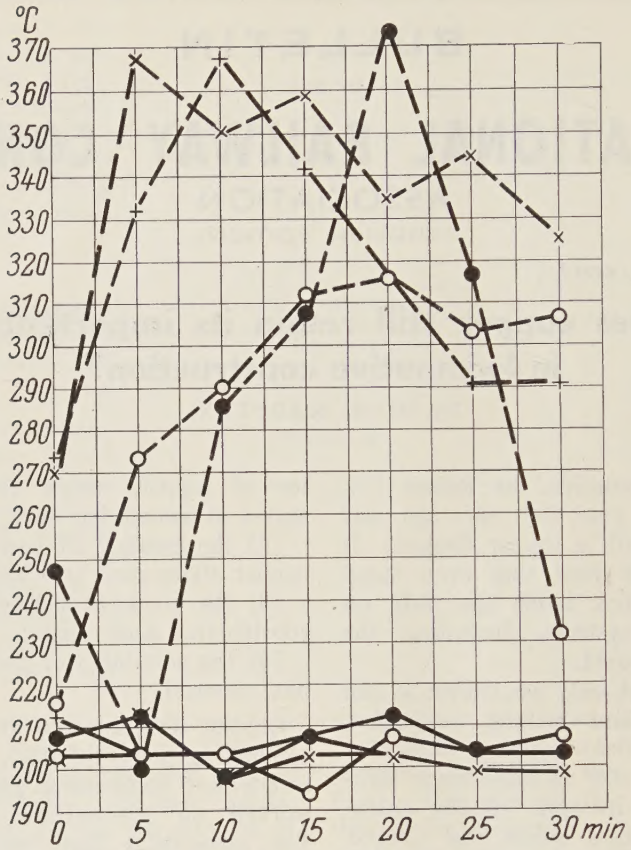


Fig. 1. — Diagram of temperature distribution in copper and steel fireboxes.

Copper.
Steel.
● Tube plate, right upper zone.
× Tube plate, left lower part.
+ Firedoor plate, right lower part.
○ Firedoor plate, left lower part.

on the behaviour of copper and on the accurate measurement of temperature in the walls of copper as compared with steel fireboxes. The natural distribution of temperature is to be seen from Fig. 1. The temperature differences in the walls of the copper boxes are markedly smaller than in the case of steel, and KOCH's investigations have clearly shown that in the copper firebox walls no appreciable accumulations of heat occur, whereas in the case of steel boxes quite considerable ones can arise, even under perfectly normal operating conditions.

In the course of the last ten years — especially the last few years — ever larger outputs of work have been required from steam locomotives. This has necessarily led to a constant development of the copper firebox. An important step forward consists in the adoption of heat-resisting copper alloys, such as the German State Railways make general use of for the bottom parts of firebox

side walls. Thousands of locomotives so equipped, of every type and power, have proved during many years of practical service, the great value of these alloys in keeping in proper condition the lower side wall parts, which are subject to the heaviest stresses. Suitable new forms of staybolts (such as the « expanded » type) and of staybolt material (copper clad steel staybolts) ensure improved tightness between staybolts and firebox walls, whether the latter be made of ordinary copper or of heat-resisting material.

Autogenous welding has also provided noteworthy improvements in copper firebox construction. New copper boxes are now supplied entirely welded. There is no longer any riveted seam in a firebox, with all its well known disadvantages. The three principal parts of the firebox — side plates with crown, tube plate and firedoor plate — are welded together by autogenous welding with X seams. Welding admittedly pre-supposes a high degree of manual experience and workmanship, if faulty places, due to insufficient penetration of welding, slag deposits, blowholes, etc., are to be avoided in the course of welding walls up to 18 mm. (11/16 in.) and tube plates up to 30 mm. (1 3/16 in.) thick.

First of all the lower parts of the two side walls are welded to the plate making up the crown and the top of these walls, after which the latter are secured to the firedoor plate and tube plate and held fast by butt-straps. The edges are bevel cut by compressed air cutter in preparation for welding together by an X seam. Perfectly accurate and correct work is only possible by having two gangs of welders co-operating efficiently with that object.

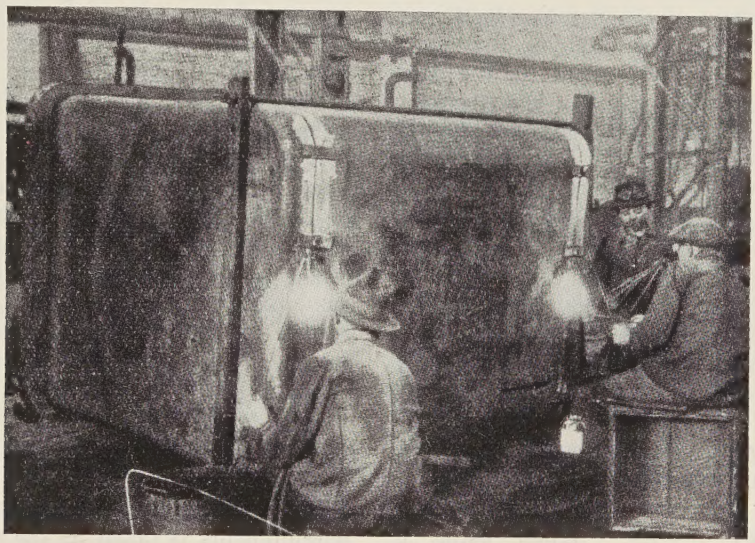


Fig. 2. — Welding a copper firebox.

Fig. 2 gives a picture of the welding process, in which three workmen are working on the inside and three on the outside during the building up of a

copper firebox. The work of both gangs, which should, as far as possible, consist each of a heater, a welder and a hammerer, should progress at the same level on the seams. To facilitate guiding them, the welding strips are bent to between an acute and a right angle. After the seams and welding strips have been treated with flux material, the weld deposit is built up simultaneously from both sides, from the bottom to the top of the X-shaped space (cross section). After a seam of 60-80 mm. (2 3/8 in.-3 1/8 in.) has been welded, it must be hammered on both sides at the same time, and while still hot, by means of pneumatic hammers in order to improve the texture of the copper in the welding seams. As flux, appropriate mixtures of boron and oxide reducing salts are used, laid on with a small brush. Such pastes must be protected against impurities and not be kept in stock for a long time, in order to avoid precipitation of specifically heavy contents; unused paste is better thrown away, on account of its lower effectiveness.

As regards the autogenous welding process to be used in the case of copper, acetylene has so far given specially satisfactory results. When using it, particular care must be taken to see that the quantity of gas used, and the acetylene-air ratio are kept constant; for welding firebox parts, therefore, only acetylene generators of high capacity, or groups of gas cylinders are usable, which must be so dimensioned that the gas discharge per cylinder does not exceed 1 m^3 (35 cu. ft.) per hour, for otherwise the welding would be spoiled by aceton being carried into it. The cylinder pressure reducing valves must work faultlessly. Another important thing is to use the correct form of blowpipe, which must have sufficiently long mixing tubes to protect the operator's hand from heat radiation; it is also usual for him to wear asbestos gloves. The blowpipe ought to be of light weight to prevent too rapid fatigue of the welder.

If the welding technique has already acquired such importance in the construction of copper fireboxes, it is especially valuable in connection with firebox maintenance and repair work. Making good any tendency to leakage, due to fissures in the flanges or cracks between holes, is now an easy matter. The part concerned must be cut away down to the bottom of the fissure and, after being repaired by welding, well hammered. Complete pieces of copper plate — frequently indeed in a firebox already in service — can be substituted for damaged parts by welding. As numerous examples on the German State Railways prove, there is now no difficulty in renewing tube plates, or firedoor plates (whole or half) completely. In the case of a firebox in service only the V type of welding seam can be used. This necessitates a good support or backing to the joint to be welded, and strong hammering of the deposited metal after welding is very important.

A prominent place in modern welding developments is taken by the process for welding copper staybolts in copper fireboxes, which has been particularly perfected by the German State Railways. Several hundred locomotives with welded-in copper staybolts have been running for some years. It should be noted that the welding of such bolts into firebox side plates made of heat resisting alloys, such as « Kuprodur », does not come in question, because in that case ordinary steel or copper clad steel expanded staybolts will remain completely tight in service. In addition, such material would also be liable to deterioration by the application of heat consequent on welding in copper staybolts.

A proof of the progress which the copper firebox has achieved is seen in the form in which it is now being used on the German State Railways. It is to the workshop technical staff of the Reichsbahn that credit is to be given for developing new lines of thought and following new lines of construction in all-welded copper boxes. How hard, long and tedious this course has been appears clearly in the fact that even now by far the greater part of the Reichsbahn locomotives are running with riveted copper boxes. Another considerable step forward in copper firebox construction and maintenance has been based on the fundamental conception of making the rate of wear of all parts the same, that is to say, of making all those subject to greater deterioration more able to resist it. The present-day copper fireboxes of the German State Railways, designed on such lines, possess the following characteristics :—

(1) all-welded construction;

(2) fitted with expanded staybolts;

(3) fitted with heat resisting copper alloy side wall bottom plates, and steel, or copper clad steel staybolts (Steel C 10,61);

(4) all front and backplate staybolts welded in.

A really high degree of perfection has been attained by these means.

The extraordinarily longer life in service of the modern copper fireboxes, coupled with the recently reduced maintenance and repair costs, is of capital importance and ensures its retaining its position of supremacy.

This prolonged life has for effect that the copper firebox really is superior to the steel box, all the more that the rehabilitation of used steel boxes is impossible.

It is now much easier than formerly to test the finished copper parts as well as their assembly and make sure there are no defects in them, particularly with the aid of the so called non-destructive testing of materials, consisting in the application of Röntgen (or in special cases gamma) rays. Excellent, portable and radiation-perfect high-tension Röntgen equipments for this purpose have been developed in the last few years by, for example, the following firms : N. V. Philips Gloeilampenfabrieken, Eindhoven, Holland, and Rich. Seifert & Co., of Hamburg. Fig. 3 shows the Seifert

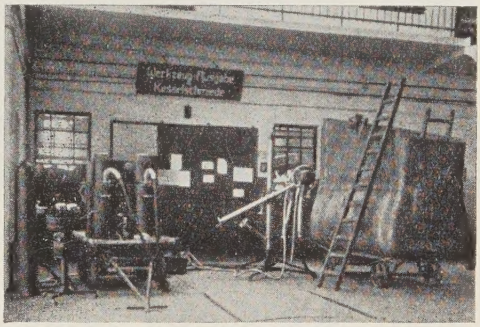


Fig. 3. — X-ray examination of a copper firebox, by means of Rich. Seifert and Co.'s (Hamburg) equipment.

equipment used on the German State Railways for making an X-ray examination of the structure of a firebox. Fig. 4 shows such an equipment being loaded into a trailer drawn by a road motor car, to enable ray examinations of defective parts to be effected at any desired place. The inspection of circular welds and the most diverse hollow objects is made possible by a special design of Seifert apparatus, the so-called « Isolux Röntgenanlage », which is very easy to manipulate. The X-ray examination will reveal all defects which can render any piece of work unable to bear heavy stresses, such as parts of welds lacking depth,

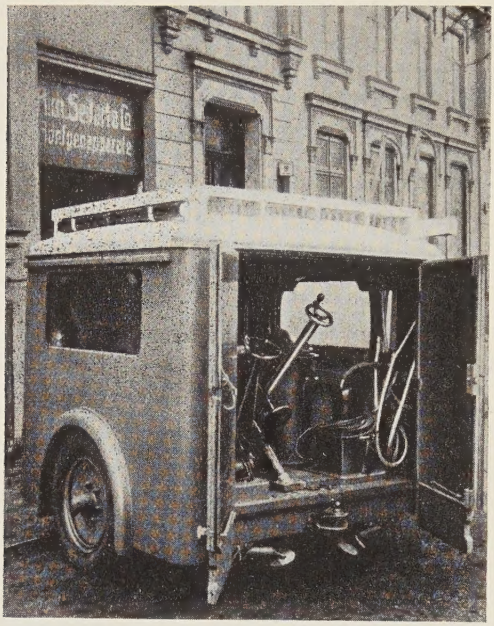


Fig. 4. — Seifert portable equipment mounted in a motor car trailer with pneumatic tyres.

porosity, blowholes, scale inclusions, hair cracks, etc.

It is, of course, understandable that for some years attempts have been made in Germany — doubtless for economic reasons — to reintroduce steel fireboxes. These attempts in spite of the disappointing results obtained with such boxes in Germany during and shortly after the war, had the effect of now bringing this type of box to a stage of development deserving attention. This has only become possible by : —

(1) The development of good constructional steel (high tensile, age-resistance, high resiliency) such as the 1 Z II steels;

(2) The introduction of an all-welded design;

(3) The ability to arc-weld the lower area staybolts and the tube ends.

It is true that the formation of cracks in the flanges, which is so frequently an undesirable feature in copper fireboxes, does not indeed happen, but the staybolt problem remains unsolved, although it is one of extreme importance ! For not only do the staybolts in the lower areas break (so-called « corrosion failures ») but also those on the upper edge areas, (« expansion failures »). The application of flexible staybolts, and of copper or copper clad ones, has been tried, together with other ideas now being considered.

The question as to whether the present-day steel firebox will not very soon have reached the same degree of perfection as the copper type at present might thus be justified. Even, if one day the two types stand equal, on technical and economic grounds, the following questions would be decisive in forming a final decision on which one to adopt:—

How does the steel firebox behave under bad feed water, washing out, tube cleaning and repair conditions in regions where technical development is in a more backward state ?

Koch has clearly shown to what extent an accumulation of heat can arise in steel firebox walls under favourable normal conditions. What will this accumulation be however, when the locomotive has to run for a long period under less favourable circumstances without protection against the fire action, not being washed out, cleaned or cared for, or unable to be repaired, as, for example, by welding ?

Such a « sick » locomotive can, if it has a copper box, even with some failed staybolts, still make some trips, even with the danger of creating a « mattress formation » in the staybolt zone. The individual failed staybolts can be knocked up without misgiving; but with a steel firebox ?

These still unsolved questions relating to the steel firebox can be very much extended when the subject is investigated more deeply. As long as they are not fully and completely answered, however, it can be rightly and authoritatively stated that the well developed up-to-date copper firebox still retains its outstanding position in locomotive engineering.

[631. 331 (.44)]

Centrally-controlled electric traction substations on the Paris-Le Mans line

By JACQUES DUMAS, Ingénieur E. S. E.

(Le Génie Civil.)

The main features of the electrification of the Paris-Le Mans railway line, which had been opened to traffic a month previously, were described in the issue of *Le Génie Civil* for July 10th 1937. Since then Mr. Garreau, Principal Engineer of the French National Railways Company, who has taken an important part in the electrification work, has given a detailed account of the various installations of equipment on this line in several expert and interesting articles which have appeared in the *Revue Générale de l'Electricité* (1).

It is our intention to revert to some of the features of this electrification scheme dealt with in these articles, and without going so deeply into detail, to describe both the equipment of the traction substations themselves, which are provided with controlled-grid mercury arc rectifiers, and their remote control gear actuated from Montparnasse station, an entirely new departure only brought into use in the early part of 1938. This system of control was the subject of a report by Mr. Garreau, published in the *Bulletin* of the « Société française des Electriciens » for November, 1938, and discussed by that Institution at a meeting held on the 24th November during their fifteenth annual discussion week.

(1) Issues for February 19th, April 17th, May 7th and June 4th, 1938.

We may recall that the Paris-Le Mans line, which is 211 km. (131.1 miles) long, is electrified on the 1 500-volt direct-current system according to standard French practice.

The contact system is fed from substations located at various points along the track. There are thirteen of these, constructed in or near railway stations, from which they are named (fig. 2). They are spaced 15 to 20 km. (9.3 to 12.4 miles) apart, except for the first two, situated in the suburbs of Paris, and which are only 12 km. (7.4 miles) apart on account of the great volume of suburban traffic between Paris and Versailles. Between each pair of substations there is a hut for sectioning and paralleling the 1 500-volt overhead system.

Substation supply.

These substations take a three-phase H. T. supply from four separate feeding points : the 15 000-volt underground network of the already electrified State Railway suburban area; the Elancourt feeding station near Versailles (fig. 2), which is connected via the Billancourt station to the 60 000-volt Paris regional underground network (fig. 3); the Luisant feeding point, near Chartres, and the Arnage feeding station near Le Mans (fig. 2), which obtain supplies at 90 000-volts from the « Massif Central » and the

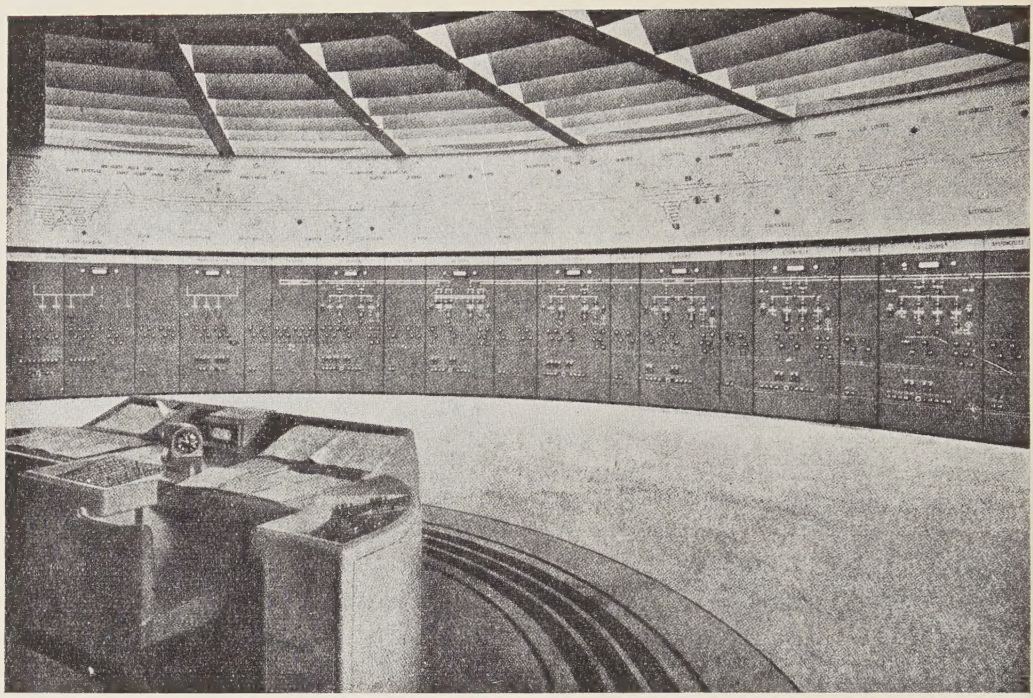


Fig. 1. — Electric traction substations on the Paris-Le Mans line.
View of the centralised substation control room, situated near Montparnasse station.

The control board is arranged on the wall in the background, and above it may be seen a continuous strip on which there is a diagrammatic layout of the line. On the left is the control-operator's desk, which is placed in the middle of the room.

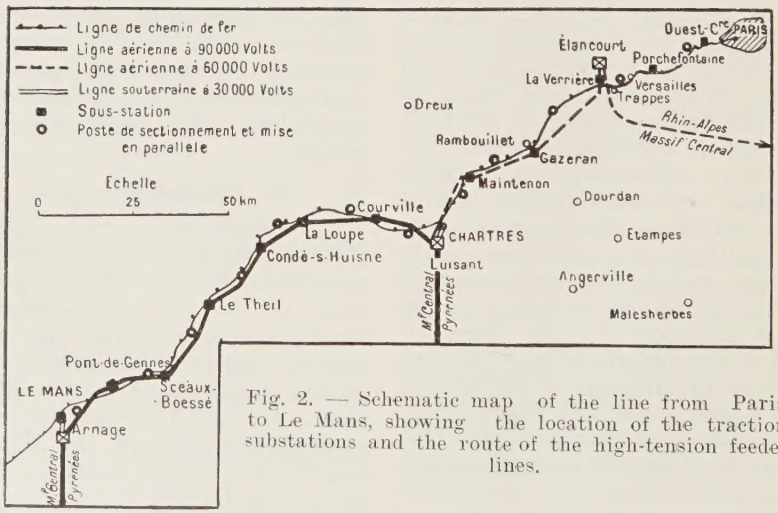


Fig. 2. — Schematic map of the line from Paris to Le Mans, showing the location of the traction substations and the route of the high-tension feeder lines.

Explanation of French terms:

Ligne de chemin de fer = railway line. — Ligne aérienne à 90 000 volts = 90 000-volt overhead transmission line. — Ligne souterraine à 30 000 volts = 30 000-volt underground cable. — Sous-station = substation. — Poste de sectionnement et de mise en parallèle = sectioning and paralleling hut. — Echelle = scale.

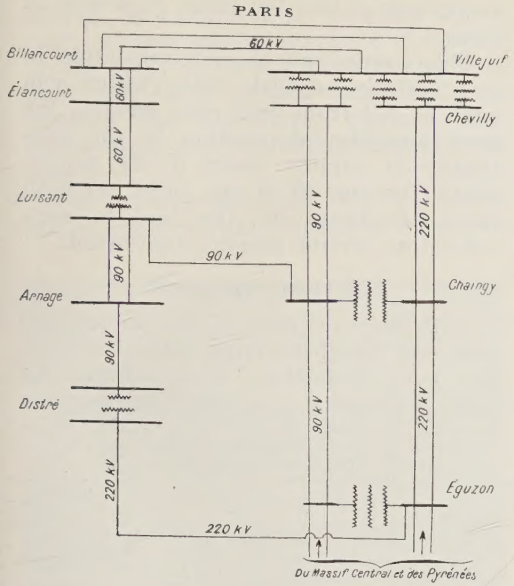


Fig. 3. — Single-line diagram of the high-tension lines feeding the switching stations which provide the supply for the Paris-Le Mans line substations.

Note. — Du Massif Central et des Pyrénées = from the Central Mountain Group and Pyrenees.

Pyrenees through the Chaingy and Eguzon stations.

The first two substations, Ouest-Ceinture and Porchefontaine, located between Paris and Versailles, are fed from the 15 000-volt network of the State electrified system (fig. 4).

The three substations situated between Versailles and Chartres, i. e. La Verrière, Gazeran and Maintenon, take their supply from two 60 000-volt lines running between Elancourt and Luisant (fig. 4), and carried on the same pylons.

The six substations between Chartres and Le Mans : Courville, La Loupe, Condé-sur-Huisne, La Theil , Sceaux-Boësse and Pont-de-Gennes, are fed at 90 000-volts by two lines connecting Luisant and Arnage and carried on the same poles.

Finally the Chartres and Le Mans substations, which cannot be fed by overhead lines on account of the extent of the built-up area receive the necessary supplies through two 30 000-volt underground cables from Luisant and Arnage, which were already providing

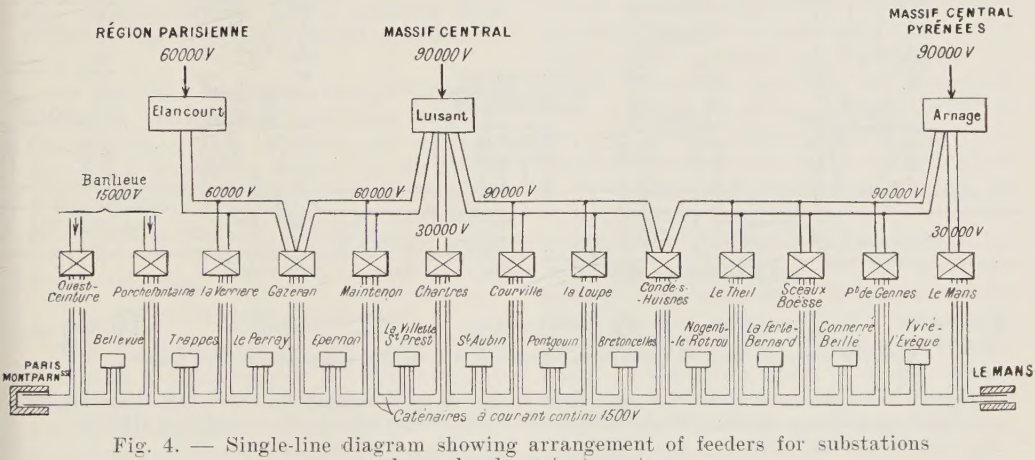


Fig. 4. — Single-line diagram showing arrangement of feeders for substations and overhead contact system.

High-tension distribution station. Traction substation. Sectioning and paralleling hut.

Note. — Banlieue = suburban area. — Caténaires à courant continu 1 500 volts = 1 500-volt D. C. overhead contact lines.

supplies at that pressure for rural distribution.

The 60 000-volt lines between Elancourt and Luisant are normally fed at this voltage from Elancourt, but if necessary they may also be supplied from a 90 000/60 000-volt tap-off from Luisant. On the other hand, the 90 000-volt lines between Luisant and Arnage are normally fed from both ends.

The substations are connected in parallel to each of the high-tension lines, except for Gazeron and Condé-sur-Huisne, situated near the mid-points of the 60 000-volt and 90 000-volt supply lines respectively, and which also form sectioning points for these high-tension lines.

This connection of each substation to two entirely separate lines which can each be fed from both ends ensures the least possible interruption to the continuity of supply : even if the supply should be cut off at any point on both lines simultaneously, the feed to each substation would remain unaffected.

Substation equipment.

With the exception of the Ouest-Ceinture and Porchefontaine substations, in the Paris suburban area, where the same arrangement as that adopted for

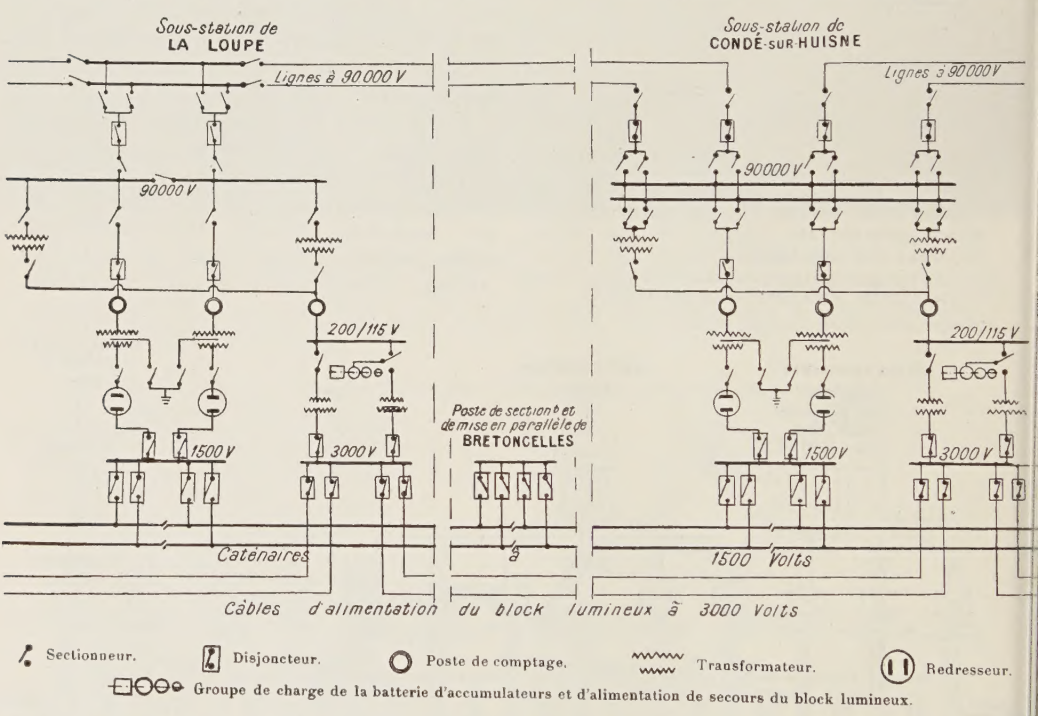


Fig. 5. — Single-line diagram of equipment in tee-off type substation (La Loupe), sectioning and paralleling station (Bretoncelles), and sectioning substation (Condé-sur-Huisne).

Explanation of French terms :

Sous-station de... = substation of... — Lignes à 90 000 volts = 90 000-volt lines. — Poste de sectionnement et de mise en parallèle de Bretoncelles = Bretoncelles sectioning and paralleling hut. — Caténaires 1 500 volts = 1 500-volt contact lines. — Câbles d'alimentation du block lumineux à 3 000 volts = 3 000-volt feeder cables for signalling supply. — Sectionneur = sectioning switch. — Disjoncteur = circuit-breaker. — Poste de comptage = metering point. — Transformateur = transformer. — Redresseur = rectifier. — Groupe de charge de la batterie d'accumulateurs du block lumineux = battery charging set and emergency supply for daylight block signals.

the suburban substations has been employed, by extending the existing buildings, all the substations have a similar layout (fig. 5). They comprise an outdoor type H. T. section, and a building housing the rectifiers, contact line feeder apparatus, auxiliaries and control board.

The modern buildings (fig. 6), which are of concrete, each comprise an upper

Fig. 6. — Chartres substation building, as seen from the track.
On the right is the gantry carrying the feeders of the overhead contact lines.

floor on which are the rectifiers and the control board, and a ground floor housing the D. C. equipment and auxiliaries.

At one end of the building there is a room in which the rectifiers may be opened up. This is equipped with an overhead travelling crane of 20 to 35 tons capacity according to the type of substation, and connected with the rectifier room by means of a 6-ton overhead runway.

High tension equipment.

The high tension section includes all the high tension gear. It is of the outdoor type carried on metal framework in all substations except at the Ouest-Ceinture and Porchefontaine substations, which have 15 000-volt supplies, and where it is of the semi-protected type housed inside the building.

In the substations connected in parallel to the high tension lines (figs. 5 and 7), one of the latter is carried into the upper part of a gantry and the other into the lower part; they are only provided with isolating and sectioning switches. These substations have a busbar group only, which can be fed through oil switches from either of the H. T. lines feeding that point.

In the sectioning substations (fig. 5) the two H. T. lines are brought separately into the feeding station, and any of them may be connected through oil switches to either of the two substation busbar groups, arranged one above the other on the same gantry.

In the Chartres and Le Mans substations the two underground feeder cables may be connected as required to the busbar groups through oil switches.

In all substations oil switches are used to connect the rectifier transformers to the busbar group or groups.

The structures are of semi-rustless steel : the lattices forming the beams and stanchions are constructed with riveted elements bolted together, except in the case of Chartres and Le Mans, which are not provided with two-level gantries, where autogenous welding is used in the assembly of the frames.

The two-level gantries are provided with a floor of metal gratings between the two levels, which allows safe freedom of movement on the structure while it is alive, and enables work to be carried on without danger on one of the levels while the other is in service.

All the oil switches are of the large oil-tank type already in use on previous electrification schemes, with the exception of those in the 30 000-volt substations at Chartres and Le Mans, where switches of the minimum-oil type are employed. The H. T. sectioning switches are operated electrically from the substation switchboard in order to link up with the centralised control system which will be described later on.

Since the two H. T. feeder lines are normally paralleled through the busbars in the substations, it becomes necessary, in the event of a fault on one of the lines, to prevent the oil switches on the sound line from tripping at the same time as those on the faulty one, an occurrence which would cause a failure of supply to all the substations located between the same two sectioning points as the breakdown. To enable this to be done, all the oil switches are under the control of relays which lock the switches on the sound line or trip those on the line which has failed, according to the direction of the current flowing through them. These relays are mounted in metal cupboards installed close to the switches.

With the exception of that absorbed by the auxiliaries, all energy input to the substations is metered on the H. T. side by means of a combined apparatus with voltage and current transformers in the same tank. Its order of sensitivity is such that it records the no-load losses of the main transformers.

Rectifier sets.

All substations are equipped with mercury vapour rectifiers, which have the following advantages : high efficiency at all loads, easy maintenance, and special suitability for automatic operation, owing to the absence of rotating parts.

The two substations nearest to Paris, i. e. Ouest-Ceinture and Porchefontaine, which have to take the load of the suburban traffic between Paris and Versailles, are each provided with three rectifiers of 2 750 kw. capacity, with space for a fourth. All other substations contain two 2 000-kw. rectifiers only, but space for a third is provided in those between Versailles and Chartres — namely La Verrière, Gazeran, Maintenon, and Chartres itself — on account of the possibility of increased traffic between Paris and Chartres. For the same reason, there is also space for a third rectifier in the terminal substation at Le Mans.

Fig. 7. — View of La Loupe outdoor substation.

From right to left may be seen the gantry carrying the H. T. lines, the line circuit-breakers, busbar group, rectifier circuit-breakers, transformers, and building housing the rectifiers.

Each rectifier set comprises a transformer with absorption coil, the midpoint of which forms the D. C. negative, and a metal-clad mercury rectifier (fig. 9) with arrangements for voltage control and protection by means of polarised grids.

Each 2 750-kw. set has an output of

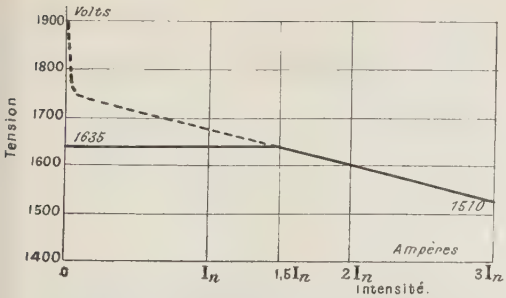


Fig. 8. — Compound characteristic of polarised-grid mercury vapour rectifier.
Inherent shunt characteristic shown dotted.

4 125 kw. for two hours and 8 250 kw. for five minutes. The transformers are delta-connected on the primary side, and have double six-phase windings on the secondary, with provision for making connection to the neutral point. The rectifiers are provided with twelve main anodes and three auxiliary anodes to ensure maintenance of the arc.

Each 2 000-kw. set can furnish 3 000 kw. for two hours and 6 000 kw. for five minutes. The transformer primary windings are connected in delta and star alternately in successive substations, to reduce harmonics on the H. T. side; the secondary has a double three-phase winding. The rectifiers have six main and three auxiliary anodes.

In each rectifier the vacuum is maintained at 0.001 mm. of mercury by means of a two-stage static diffusion-type high-vacuum pump which runs continuously, with a rotary oil-sealed pump for starting. The tank temperature is kept as nearly constant as possible, at about 45° C. (113° F.), by auxiliary heaters inside the tank and an air cooling arrangement on the main water circulatory system of the rectifier.

Voltage control is provided by a polarised grid arrangement, which operates as follows. A mercury vapour rectifier has an inherent shunt characteristic (fig. 8), i. e., the rectified voltage drops as the load increases. If a negatively charged grid is placed between an anode and the cathode, its ignition is prevented. By applying a positive potential to this grid at the moment when ignition is required, the output of the anode may be regulated. If these positive charges are displaced in phase relative to the primary voltage, the instant at which the anode fires is retarded and the mean rectified voltage is decreased.

By regulating the phase-displacement in proportion to the load, the current-voltage curve of the rectifier can thus be modified at will.

This property has been employed to

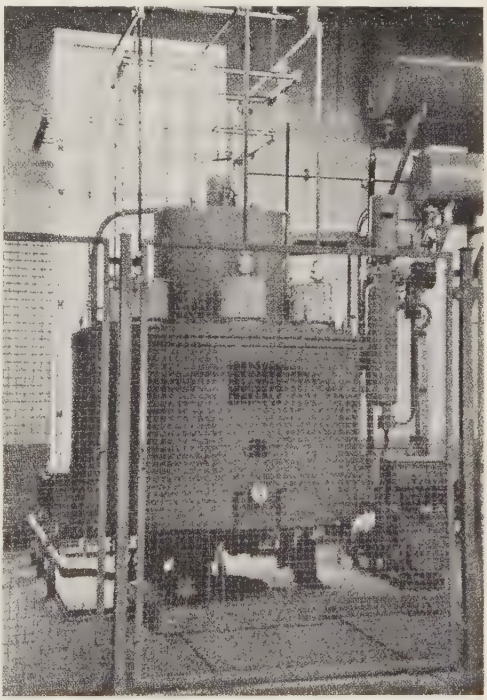


Fig. 9. — View of 2 000-kw. mercury vapour rectifier behind its protective screen.
On the right of the rectifier may be seen ; — below, the rotary vacuum pump; above it, the diffusion-type high-vacuum pump; and at the top the expansion reservoirs for the two pumps.

obtain a compound characteristic (fig. 8) which gives constant voltage from no-load to 150 % nominal load; thence a decreasing voltage following the normal shunt characteristic. In addition, it enables sudden variations in potential to be avoided when a rectifier is automatically switched in on low contact wire voltage, by a gradual buiding-up of the rectifier voltage. Moreover, high current surges and, what is most important, short-circuits, may be eliminated by negative polarisation of the grids.

Feeding of contact lines.

The rectifier groups in each substation are connected through reverse-current circuit-breakers to the main 1 500-volt busbar feeding the overhead contact system. Each sectioning and paralleling hut located between each pair of substations is also provided with a main 1 500-volt busbar.

The contact wires on each track are sectioned at each substation and paralleling hut, and each section is connected at its ends to the 1 500-volt bars in the substation or hut through high-speed circuit-breakers polarised in the busbar-contact line direction.

Normally the circuit-breakers at each end of a section of contact wire are both controlled from the substation by wires forming part of the main centralised control cable running beside the track, which we shall mention later. This arrangement ensures that, should a fault occur on any section, the two breakers at its ends are tripped and the section cut out of use without affecting the rest of the system.

However, if necessary, a change-over switch enables the two circuit-breakers to be separated and controlled independently from the substation.

Each substation therefore controls the two half sectioning and paralleling sections on either side of it.

The main 1 500-volt busbar in substations and sectioning huts is housed in a screened chamber divided into panels provided with contact sockets, which on some panels are connected to one rectifier and to the busbar, and on others to the busbar and a section of overhead line. Automatically-opened shutters shield the contacts on panels which are out of service.

All the 1 500-volt circuit-breakers are enclosed in screened cubicles (fig. 10)

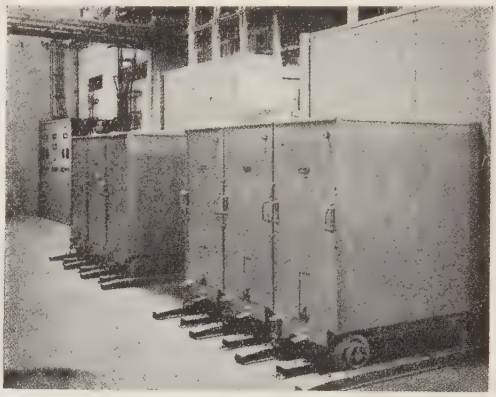


Fig. 10. — View of 1 500-volt circuit breakers and protected chamber housing feeder busbar for contact lines.

mounted on wheels and provided with contact fingers which engage with the sockets on the panels of the 1 500-volt main busbar chamber. The installation and removal of the breakers is effected by moving the cubicles which house them.

Auxiliaries.

The numerous substation auxiliaries : automatic control relays, control of sectioning switches and circuit-breakers, lighting, heating, operating gear, etc., are normally supplied with A. C. at 200/115 volts; or, should this fail, with 110-volt D. C. This supply is all the more important in that it forms the feed for the daylight signalling system.

The 200/115-volt A. C. supply is derived directly from the H. T. busbars

through two transformers, of which one is a stand-by, of 50 to 135 kVA. capacity each, according to the substation. The protection of these transformers is effected by Bucholz relays which trip the breakers feeding the H. T. busbars if there is the least trace of gas evolved in the tank.

The metering of the power input to the auxiliaries is effected on the low-tension side, using a correction factor which takes into account the transformer losses, though these are very low.

The 110-volt D. C. supply is provided by an accumulator battery of 148 Ah. capacity at the one-hour rate of discharge, permanently connected to a motor generator set which maintains it always in a fully charged condition. The battery therefore only supplies current to the auxiliaries in the event of the charging set being accidentally or purposely shut down.

Control board.

All the controls for the apparatus in a substation are brought to a switch-

Fig. 11. — View of control switchboard in a substation.

board (fig. 11) in the form of a metal cabinet on the upper floor of the building, on the front of which there is a reproduction of the circuits controlled, carried out in different colours according to the duty of each circuit.

Each piece of apparatus so controlled is represented by a disc-operated switch of the turn-and-push type, inserted in the diagram : the disc may be turned to either of two positions at right angles to each other, one of which shows the circuit as an unbroken line and represents the apparatus in the closed position. To change the position of any item of equipment the disc must be turned, then pushed in.

Indication is on the normally-dark principle. Each disc switch is provided with a lamp which shows no light when the position of the switch corresponds to that of the apparatus : if any piece of apparatus operates automatically, the lamp lights up and a bell rings, and the disc must be turned in order to restore previous conditions. A special switch enables all lamps to be lit at once and causes the bell to sound, to ascertain that all is in order.

Since the substations are normally remote-controlled from Paris, the special switch mentioned above also enables the lamps and bell to be cut out, so as to prevent each operation effected from the control room, or automatically through the local control, from lighting the corresponding lamps and actuating the bell.

The switchboard is also provided with all the metering equipment necessary for the operation of the substation. All the recording instruments are controlled by a master-clock which ensures that all charts are kept running in synchronism. Finally, an « operation recorder », likewise controlled by the master-clock, registers the exact time at which any piece of apparatus in the substation changes position, and simultaneously notes all those items of equipment which are in the « closed » position. By comparing consecutive lines drawn by this recorder, a very accurate idea of what

has happened in the substation may be obtained.

Supply for automatic daylight-signalling system.

When it was electrified, the Paris-Le Mans line was equipped with the most up-to-date signalling system — automatic daylight-signals — which enables a smooth flow of high-speed traffic to be maintained under the best possible conditions.

In this system track circuits fed by a very low voltage supply and isolated from each other by insulated rail joints are shunted by the wheels of passing trains and automatically cause the necessary changes in the aspects exhibited by the signal panels : thus the signals are controlled by the trains themselves.

Among other advantages this system enables the capacity of the line to be increased by maintaining a closer headway between trains.

The satisfactory operation of such a system depends on the reliability and steadiness of its supply, and so a great deal of attention has been given to the provision of the maximum number of safeguards.

The alternating current required for operating the signals is supplied at 3 000 volts from the traction substations and distributed by two armoured cables running by the side of the track in buried concrete troughing cast on the site. These feeders supply each piece of apparatus or cluster-panel through a 3 000/210-volt transformer located nearby : in case of failure this transformer is automatically and instantly replaced by a second transformer provided as a standby.

Both feeders are normally alive and the signals are connected alternately to each, but in case of failure of supply in one of them, the other immediately takes over the whole signalling load.

The feeders are sectioned at each substation and normally fed by the one on the Paris side, without any connection with that at the Le Mans end, but if necessary they may be very quickly connected to the substation on the latter side. However, to prevent paralleling of the substations, interlocking by means of a Bourré key ensures that the feeds at the two ends of the same section of cable shall not be connected to it simultaneously.

The 3 000-volt signalling supply is normally provided by a transformer in each substation (figs. 5 and 12) connected to the 200/115 auxiliary service busbars, which are in turn fed by transformers from the station H. T. busbars. This transformer feeds a 3 000-volt busbar group via a circuit-breaker, and the two pairs of signalling feeder cables terminating at the substation are also connected to these bars by means of circuit-breakers.

This normal arrangement of supply is liable to interruption by failure on the H. T. side. A failure of supply to the overhead system on the part of any substation does not stop the running of trains, however, which continue to receive current from neighbouring substations. To avoid any signal breakdown, which would completely stop the traffic, it is therefore necessary to provide an emergency supply which shall come instantaneously and automatically into action.

The emergency supply is provided in each substation by a diesel engine, *a*, (fig. 12) capable of driving the battery charging set by means of a magnetic flywheel, *b*. The synchronous motor, *d*, which drives the set and is normally fed from the 200/115-volt busbars then operates as an alternator excited from an exciter, *f*, fixed to the end of the shaft of generator, *e*. The 200-volt supply furnished by this machine is stepped up to 3 000 volts by a transformer, *h*, connected by change-over switch, *g*, and circuit-breaker, *i*, to the 3 000-volt busbars.

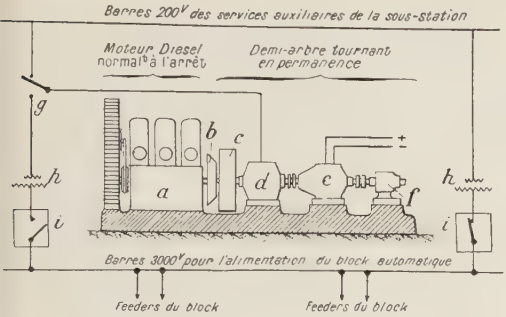


Fig. 12. — Diagram of supply to daylight signalling system.

a, emergency diesel engine; *b*, magnetic clutch; *c*, flywheel; *d*, synchronous motor capable of operating as alternator; *e*, battery charging generator; *f*, exciter; *g*, change-over switch; *h*, 200/300-volt transformer; *i*, circuit-breaker.

Explanation of French terms in diagram:

Barres 200V... = 200-volt substation auxiliary supply busbars. — Moteur Diesel... = diesel engine, normally at rest. — Demi-arbre... = section of shaft running continuously. — Barres 3 000V... = 3 000-volt busbars for supply to automatic block signalling system. — Feeders du block = signalling supply.

To obtain an almost instantaneous change over to emergency feed in the event of failure of the normal supply, the diesel engine is provided with a thermostatically-controlled heated jacket, and the battery charging set, which is always running, carries a heavy flywheel, *c*.

When a failure occurs the magnetic clutch connects the diesel engine to the converter set and simultaneously the synchronous motor is disconnected from the 200-volt bars. The inertia of the flywheel and converter group then drives the diesel engine, which starts up at once. When its speed has reached the value corresponding to the frequency of the system, the synchronous motor running as an alternator is connected to the transformer feeding the 3 000-volt busbar and maintains the supply to the signalling apparatus. The whole sequence of operations is completed in five seconds.

When the H. T. supply is restored, the diesel engine is disconnected from the converter set and normal feed conditions are re-established. While the above operations are taking place the charging dynamo is disconnected from the battery; it is re-connected automatically when normal conditions are restored.

All the 3 000-volt gear is of the protected type already adopted for the 1 500-volt overhead system feeder equipment (fig. 10). The busbars are housed in a protected chamber divided into panels provided with contact sockets which are connected either to a transformer and to the busbar, or to the bars and to a cable. The circuit breakers are enclosed in protected cubicles mounted on wheels and making connection with the panel contacts by means of contact fingers.

Operation of the substations.

All substations are provided with two kinds of equipment, an automatic control which carries out operations not requiring judgment; and a remote control enabling operations which do require judgment to be performed from a central control point in Paris, near Montparnasse station. The substation control-operator can thus carry out at will all switching movements necessitated by traffic conditions, and he receives immediate confirmation that they have been completed.

This method of control enables substation attendants to be dispensed with, and has the advantage of presenting to the control-operator a complete picture of conditions throughout the system such as individual substation attendants could not obtain. This picture of the whole system is made still more complete by direct connections with other departments concerned, e. g. traffic controllers, track gangs, power suppliers, which enables rapid and unified action to be taken.

It is evident that automatic control alone will not suffice for the operation of a substation; but it may be asked why centralised control, which so advantageously replaces manual control in

all operations falling outside the sphere of automatic working could not also perform those included in the latter, and by this means take over complete control of the substation in which case the automatic equipment could be eliminated.

This could be done, but it is preferable to retain automatic control for operations which can be performed more rapidly and reliably by this method, while enabling the remote-control operator to direct certain of these operations if necessary.

At the same time, in case of a breakdown at a substation, it is an advantage to be able to leave it to operate automatically by itself pending the arrival of one of the staff.

Automatic working.

All substations are provided with the standard system of automatic working, which is in effect semi-automatic in action, aims at ensuring continuity of supply to the overhead system, at the same time effecting a saving of current by arranging for certain substations to be switched in only when operating conditions render it necessary.

To reduce losses due to light running, certain substations, termed pilots, are kept continuously running in order to maintain the voltage on the overhead system, which is normally connected from one end of the line to the other by the busbars in the substations and track paralleling huts.

The remaining substations are started up when the busbar voltage drops to 1 500, which indicates the approach of a train, and shut down when their output falls below a certain value. This cutting in and out can also be effected at fixed times by means of a master-clock provided with contact fingers.

Any substation may be used as a pilot by merely starting it up on remote or local control, but some pilots are determined by the volume of station traffic, as is the case at Chartres and Le Mans.

In each substation the rectifiers are started up or shut down according to the demands of the section of line which it feeds. The order in which the rectifiers are started up is fixed beforehand; it may be changed, but only by adjustments at the substation itself. If a rectifier circuit-breaker should trip out automatically, three attempts are made to reclose it, and it is only after the third unsuccessful attempt that the rectifier is locked out and replaced by another.

We have already seen that the circuit-breakers feeding a section of line between a substation and a sectioning hut are normally interconnected, but may act independently if necessary.

Under normal conditions, after these circuit-breakers have tripped out, the reclosing movement is only carried out after the insulation of the contact line has been tested and found satisfactory. This test is effected from the substation by livening up the contact line through a resistance and comparing the voltage across it with that of the system. This test is carried out three times, and it is only after the third negative result that the circuit-breakers are locked out. It is possible, however, to unlock them remotely and to cause the equipment to carry out a fresh test.

The automatic control of the sectioning hut breakers from the adjacent substation is effected over three wires for each breaker, at a voltage of 60: one wire for synchronised operation with the corresponding substation breaker, another for independent control, and the third for common return. Each substation therefore controls the circuit-breakers in each of the half sectioning and paralleling huts on either side of it.

Centralised control.

The central control point is located in Paris, in a building on part of the land occupied by Vaugirard goods station, at

the corner of the Rue du Cotentin and the Rue Falguière: its restrained, modern lines are reminiscent of the style in which the substations are built.

The centralised control room itself (fig. 1) is in the form of a semi-circle of 13 m. (42 ft. 8 in.) diameter, at the centre of which is located the control-operator's desk. This room is lighted during the day by a translucent ceiling, and at night by indirect lighting which eliminates all glare.

The control board is installed on the semi-circular wall of the room, and above it is located a diagram depicting the line from Paris to Le Mans (fig 1). This board reproduces in miniature all the high-tension circuits, 1 500-volt traction, and 3 000-volt signalling supplies; and the low-tension auxiliary services for substations and line sectioning huts. It comprises 27 panels, each of which is assigned to a substation or to a sectioning or paralleling hut. The circuits are shown coloured according to their function.

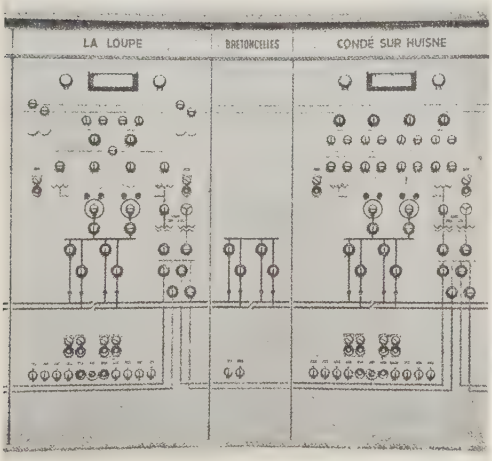


Fig. 13. — Detailed view of substation centralised control board, showing panels for La Loupe and Condé-sur-Huisne substations, and Bretoncelles paralleling hut; the wiring diagram is given in fig. 5.

Fig. 13 gives a detailed view of part of the control board, and shows La Loupe tee-off type substation, Condé-sur-Huisne feeder-sectioning substation, and Bretoncelles track-paralleling hut which comes between the two. It will be seen that this is a simplified version of the diagram shown in Fig. 5.

The control board is of the normally-dark type, as in the substations. It is arranged to report all automatic changes in position of equipment and to afford remote control of the equipments combined with confirmatory indication of the moves made.

When an item of equipment changes position in a substation or paralleling hut, the lamp on the switch representing it on the control board lights up and a bell rings; to extinguish the lamp and stop the bell it is necessary to operate the switch to the position corresponding to that of the equipment concerned. Certain lamps used for fault reporting remain alight for the whole time the fault persists. To facilitate location of apparatus which has changed position of itself, each panel is provided with a general-purpose lamp which lights up when any piece of apparatus controlled from that panel operates in this way. A special change-over switch causes the simultaneous lighting of all lamps on a panel and also rings the bell; this is used to test that all is in order.

To make a switching movement, the operator sets the change-over switch of the apparatus in question to the position required, and presses a push-button or pulls a handle. The change-over switch lamp lights up at the beginning of the operation and only goes out after confirmation has been received that the operation has been carried out.

In this way the operator can control the following movements in each substation, from Paris :

1. Switching in or out of :— high-tension supply; rectifier sets; auxiliary service trans-

formers; contact line feeder circuit-breakers; signalling supply circuit-breakers.

2. Checking the operation of the emergency power unit for signalling supply.

On each substation panel there is a wattmeter which gives the power output from that substation. A wattmeter is provided on the controller's desk, which gives the total output from all substations together.

In the middle of the control room, behind the operator's desk, there is a switchboard with the substations metering equipment : integrating instruments recording output at five-minute intervals, which enable the average output for each substation and for all substations together to be obtained.

The substation controller is linked by telephone to all substations, stations and depots; and also to the traffic controllers at Paris and Le Mans, the supervisor of the 60 000-volt Paris regional underground network, and the switching stations at Luisant and Arnage. He is also connected to telephone boxes placed at 500-m. (1 640 ft.) intervals along the track, which enable him to communicate with the track maintenance gangs.

All telephone lines between the points mentioned above, as well as all track-side telephone lines, are carried in cables located in the troughing which houses the signalling supply cables.

The remote-control and remote-metering equipment for each substation, and the two half section huts controlled from it, is housed in cabinets arranged in a circular gallery behind the control board. At each substation there are similar cabinets containing the same type of apparatus.

The connections between the control room and each substation consist of two wires for remote control and two wires for remote metering, making four wires per substation and a total of fifty-two wires starting from Paris. These wires are continuously energised by a pilot current of about 2 milliamps., which is derived from a 60-volt accumulator battery at the control room and at each substation. All wires are insulated for 2 000 volts and are carried in a cable which also includes telephone circuits; this cable is run in the same troughing as the automatic block cables.

Method of control.

The transmission of orders from the control room to the substations and the indications in the reverse direction is carried out by a series of impulses impressed on the pilot current flowing in the supervisory wires. Impulses from the control room are in the form of cancellations of the pilot current, while those from the substations reverse it.

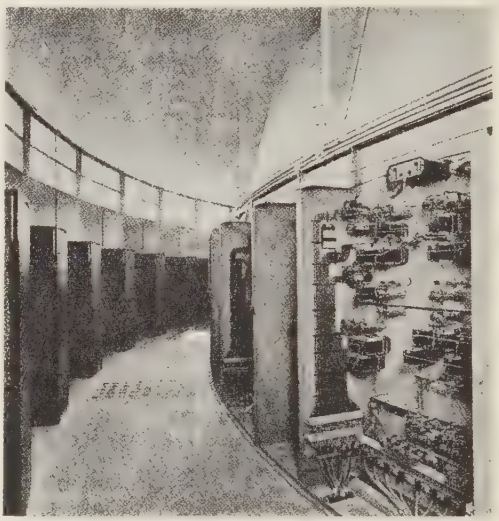


Fig. 14. — Circular gallery in central control room.

Back of main control board on right; cabinets housing remote control and remote metering apparatus for the various substations on the left.

The principle of operation is as follows : — For each substation panel on the main control board there is a selector connected to the push-button, control-lever and signalling lamp circuits

on the board. There is a similar selector in each substation connected to the control circuits of the items of equipment it is desired to operate.

When any piece of apparatus in a substation changes position of its own accord, the selector in that substation starts to search for the item concerned, and in doing so transmits a series of impulses grouped in a distinctive manner along the pilot wires to the control room. These impulses operate the control room selector step-by-step until they reach the contact which closes the circuit to the corresponding signalling lamp.

When an order is sent out from the control room, the selector of the panel concerned starts to search for the circuit energised and, while doing so, transmits to the substation impulses which direct the selector in that substation to the contact corresponding to the operation required to be carried out.

The number of impulses transmitted is the same for all orders; each order is distinguished by the position occupied by a pause inserted in the series of impulses. This process necessitates one complete revolution of the selector for each order, and the transmission of only one order at a time, but it automatically eliminates sources of error which might be introduced by additional impulses or by the omission of an impulse.

For return-indication the procedure is slightly modified so that when several items of equipment in a substation change position simultaneously, the corresponding indications may be transmitted in one revolution of the selector. The number of impulses always remains the same, but the distinctive pauses for each indication are inserted at the same time in the series.

Apart from the control of the number of impulses, therefore, correct operation depends on the transmitting and receiving selectors completing their rotation at the same time.

If it is a question of confirming the execution of an order sent from Paris, instead of reporting an automatic change of position of any apparatus in a substation, it is not necessary for the selector gear to start up on a new search, since the selectors remain for a certain time in the position corresponding to the execution of the order, and the return indication finds the route set up for it, which achieves a considerable saving of time. The lapse of time between the transmission of an order and the reception of the return indications varies from ten to twenty seconds, according to the nature of the order.

The remote metering of the output of each substation is effected by a meter which sends out impulses to the control room at a frequency proportional to the output. These impulses are received at the control room, firstly by apparatus connected to the wattmeter on the substation panel which is so arranged that the deflection of the needle is proportional to the frequency of the impulses; and, secondly, by a meter which runs at a speed proportional to the frequency and operates the integrating meter of the substation concerned.

* * *

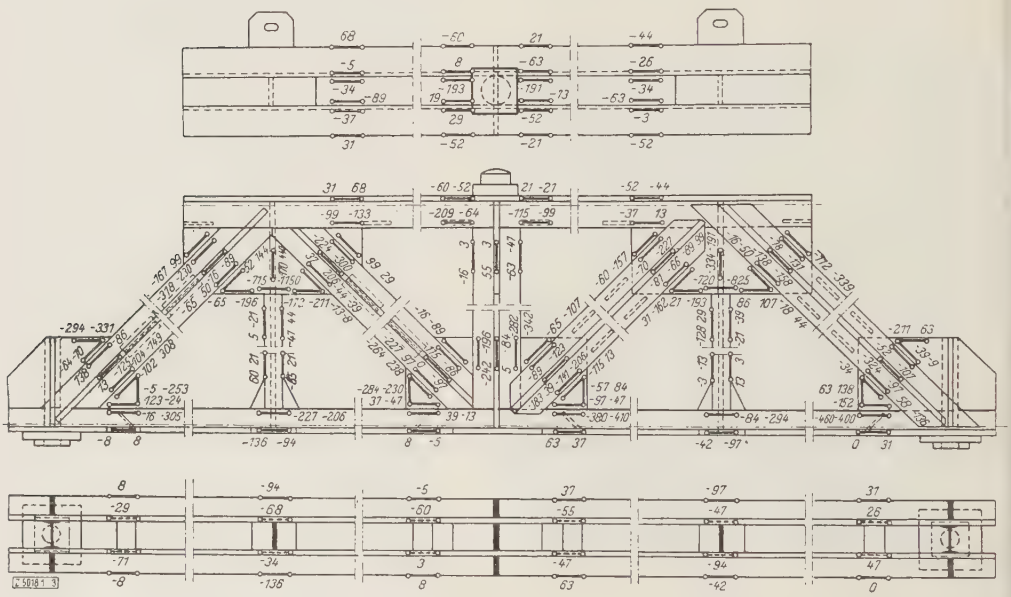
The substations on the Paris-Le Mans line were operated locally from June 1937, when they were put into commission, to March 1938; since then they have been remotely controlled. This latter method of operation, which has proved entirely satisfactory, has enabled a staff reduction of about 2.5 employees per substation to be made, or a total of about 30 employees for the whole of the 13 substations on the line.

[62 (01]

Investigation into lattice girders of welded steel and reinforced concrete undergoing static stresses and fatigue tests,

by Dr. Ing. E.h.M. ROŠ, Zurich.

(From the *Zeitschrift des Vereines Deutscher Ingenieure.*)



Figs. 1 to 3. — Welded steel girder with record of the measured contractions.

Distance between supports $l = 6$ m. (19 ft. 8 1/4 in.). — Height of girder 1.50 m. (4 ft. 9 1/16 in.). 100 units = 1 $^0/_{00}$.

The determination of the resistance to fatigue of reinforced concrete lattice work and welded steel lattice girders is one of the still unsolved problems of the civil engineer. Lattice work in reinforced concrete, because of the peculiarities of its construction, can be considered as exceptional. Welded steel lattice girders are at present only in use for buildings and road bridges, as up to the present it has been considered imprudent to employ them for railway bridges in consequence of the fatigue resulting from the repeated stresses (fatigue).

During the 1934-1936 period MORTADA (1) carried out at the Federal Ma-

(1) See A. MORTADA : Beitrag zur Untersuchung der Fachwerke aus geschweisstem Stahl und Eisenbeton under statischen Dauerbeanspruchungen. — Federal Materials Testing Station of the Polytechnical School, Zurich; Report No. 103, Zurich 1936 (86 pages and 50 fig.). The above note is an abstract from this report.

terials Testing Station, at Zurich, static and fatigue tests on lattice girders of reinforced concrete and welded St. 37 steel; specially noteworthy results of this research work are given hereafter.

Welded steel lattice girders.

(1) In welded steel lattice girders in which the cross sectional area of the welds is large in proportion to the cross section of the rolled sections, *contractions* reach a very high value (figs. 1-3). The *internal stresses* can in fact reach the yield point of the steel, even in the case of good welds.

(2) A welded lattice girder shows greater *stiffness* than a rivetted girder, and less constant *variation in cross section of the connections* of the lattice bars to the gusset plates. This results in irregular distribution of stresses, which at the edges may be more than double the evenly distributed stress in the middle.

(3) The arrangement consisting of *gusset plates to which the lattice bars* (vertical struts and diagonals) *have been connected by angle welds* has given better results than the connection of the lattice members to the gusset plates by butt welding, not only in regard to static stresses but especially in regard to fatigue (fig. 4). The assemblies consisting of joints with separate gusset plates are definitely to be preferred.

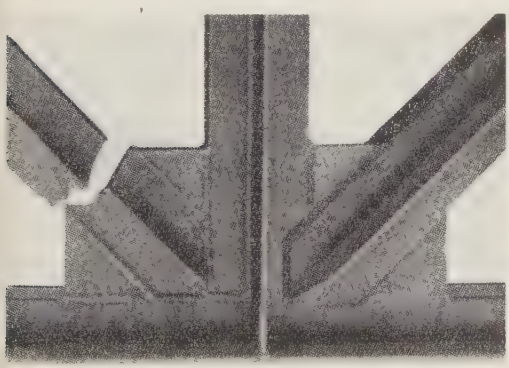


Fig. 4. — Fatigue fracture at the middle gusset plate of the lower boom of the welded steel girder shown in figs. 1 to 3.

(4) The *reduction of stresses at the connections* of the lattice bars with the gusset plates sets in quickly. Subsequently it becomes uniform over the whole length of the joint.

(5) The *welded joints of the connections,* especially the butt welds, are heavily stressed in tension, compression, bending and shear.

The stresses arising therein together with the internal stresses can reach dangerous amounts.

(6) The *bi-axial stress condition* set up in gusset plates subject to much deformation is very complex.

(7) The *secondary stresses* due to a rigid connection, measured near the lattice bar joint, amount on the average to 22 % and at the maximum 67 % of the axial main stresses. At the actual joints they are, of course, higher.

(8) The *heaviest stresses* under which the welded lattice girder shown in Figs. 4 and 5 reached the fatigue limit and broke after 1 413 million load alternations attained the following amounts,

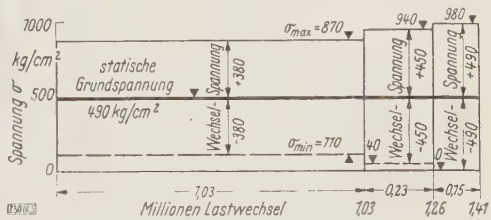


Fig. 5. — Intensification of stress in the fatigue tests of the welded steel girder.

Explanation of German terms:

Spannung = stress. — Statische grundspannung = basic static stress. — Wechselspannung = alternating stress. — Millionen lastwechsel = millions of load alternations.

measured as near to the joints as was possible :

Diagonal tie at connection with lower boom.	1 036 kgr./cm² *(14 735 lb./sq. in.)*
Welded joint, lower boom	1 050 kgr./cm² *(14 934 lb./sq. in.)*
Diagonal tie, connection with top boom . . .	1 362 kgr./cm² *(23 639 lb./sq. in.)*

The fatigue fracture — primitive strength — occurred under the repeated effect of the useful load; the calculated stresses corresponded to those allowed by the Swiss Federal regulation of 1933, for welded plate girder bridges.

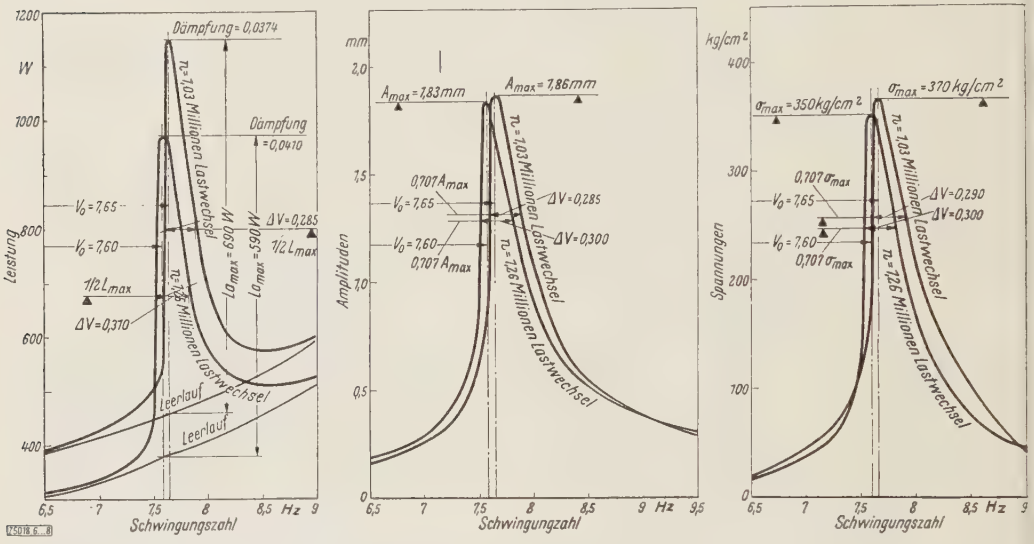
The factor of safety for the fatigue effect amounts to about 1; the useful load is about equal to the breaking load. The *fatigue fracture* always began in the zone of transition to the parent metal, i.e. the tension zone (notch, heat effects).

(9) With progressive fatigue effect the static deflection increases, the force of restoration (which corresponds to the deflection — 1) diminishes, while the inherent vibration frequency and the magnitude of the resonance amplitude decrease (see figs. 6 to 8).

After a fairly long rest period the vibration frequency and the resonance amplitude are restored and the recovery is almost complete.

(10) The damping ϑ/π is increased in proportion to the fatigue condition, but is in itself very small. The augmentation coefficient π/ϑ and consumption of energy (see figs. 6 to 8) decrease in proportion to the increasing fatigue.

(11) The *fatigue fracture* occurs suddenly and without previous distinct in-



Figs. 6 to 8. — Results of the fatigue tests of the welded steel girder as shown in fig. 5. with resonance.

The corresponding tests on the reinforced concrete girder shown in fig. 9 gave rise to curves precisely similar to those shown above, but because of the different nature of the materials it is, of course, necessary to apply to them other absolute values.

Explanation of German terms :

Leistung = efficiency. — Dampfung = damping. — Schwingungszahl = number of vibrations. — Amplituden = amplitudes. — Spannungen = stresses.

timation of any alteration of the physical properties of the material.

The determination of the state of fatigue at any moment by means of the vibratory test through the establishing of the alteration of the condition — damping — at different time intervals, is not shown, as a result of the above-mentioned research work, to lead to any satisfactory conclusion.

(12) Where welded lattice work is used, the greatest caution is necessary in every case in which alternating stresses of considerable magnitude and duration occur.

Reinforced concrete trellis girder.

(1) The first *visible cracks* in the reinforced concrete lattice girder (fig. 9) which was tested — static fissuring load — appeared at about 0.27 of the useful load.

(3) The *secondary stresses* set up by the rigid connection of the members are high. Under the condition of loading represented by P/P_n (where P_n = useful load) these secondary stresses attain the following increased values (see fig. 10) :

Boom in compression . .	25 to 61 %
Diagonal ties	about 7.5 %
Boom in tension	60 to 111 %

They become of growing intensity as the loading increases, which causes a more rapid development of the deformation, and increase at an exceptionally high rate at the stage where the yield point of the reinforcing steel is reached.

(4) With concrete of very high quality [compressive strength of concrete prism, 360 kgr./cm² (5 120 lb./sq. in.), primary strength $\sigma_u \simeq$ 220 kgr./cm² (3 130 lb./sq. in.)], and normal reinforcing steel [yield point $\sigma_f \simeq$ 2 700

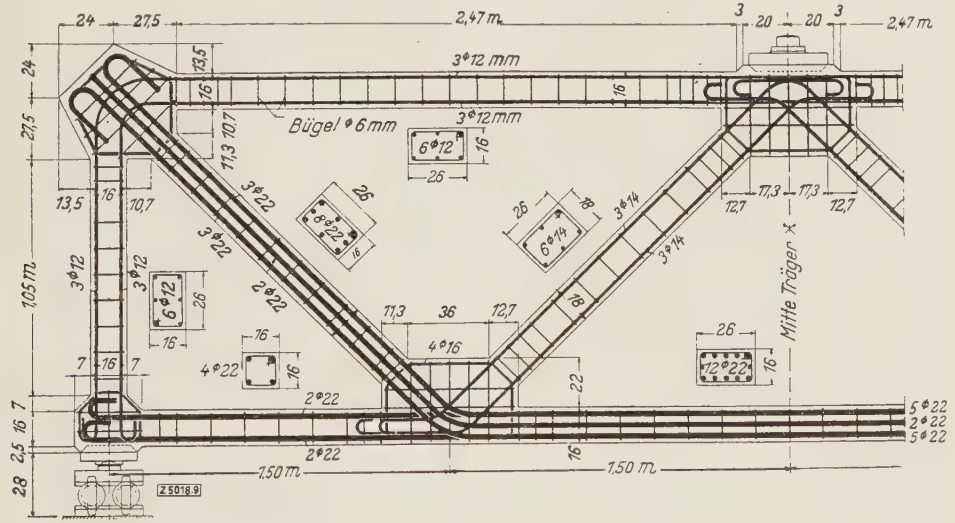


Fig. 9. — Steelwork of the reinforced concrete test girder.

Note. — Bügel = loop. — Mitte träger = middle of girder.

(2) The *permanent deformations* represent about 20 % of the total deformations under loads which amounted to about 0.7 of the useful load.

kgr./cm² (38 400 lb./sq. in.), primary strength σ_u = 2 500 kgr./cm² (35 560 lb./sq. in.)], the *actual factor of safety for fracture by static loading* is 2.6.

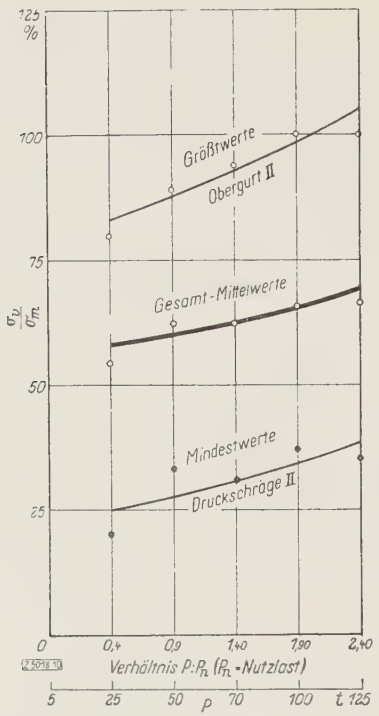


Fig. 10. — Variation of secondary stresses resulting from the stiffer lattice bar connections in the reinforced concrete girder, under load.

σ_v = secondary stresses. — σ_m = mean stresses.

Explanation of German terms:

Größtwerte = highest values. — Obergurt = upper boom. — Gesamt-Mittelwerte = aggregate average values. — Mindestwerte = lowest values. — Druckschrage = diagonal tie in compression. — Verhältnis = ratio. — Nutzlast = useful load.

(5) In course of the fatigue creation by alternation of loading between approximately zero for the lower and limiting values for the higher, *the static deflection and damping increase,* while the resilience and inherent vibration number diminish.

Under the same test conditions as for the welded steel girder (see figs. 6 to 8), the resulting values of *efficiency, amplitude* and *stress intensification* again diminish with the increase of fatigue. A recovery after the easing of the load was also noticeable in this case. Within separate periods a permanence of the deformation was produced after a certain number of alternations of the loading.

(6) With a sufficient static safety factor — concrete in compression average $\geqslant 4$, reinforcing steel in tension ≈ 2.2) — there follows for a well designed reinforced concrete lattice work sufficient safety (safety factor $\geqslant 1.5$), even as regards *repeated stresses.*

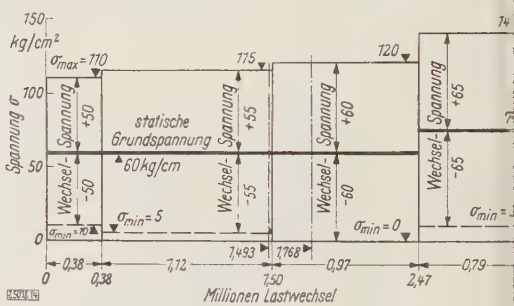


Fig. 11. — Intensification of stress in the fatigue tests on the reinforced concrete girder.

After 3.26 million alternations of load ranging from zero to a higher limit corresponding to the useful load (fig. 11), the reinforced concrete girder did not reach the endurance limit.

The use of concrete of very high quality in reinforced lattice work is definitely to be preferred.

MISCELLANEOUS INFORMATION.

[621. 431.72 (.481)]

Fast railcars ordered by the Norwegian State Railways for the Oslo-Bergen line.

A few months ago it transpired that the Norwegian State Railways intended to acquire fast multi-coach railcars for their main lines. At the close of 1938, trial runs, in which the Scandinavian public was much interested, took place between Oslo, Bergen, Trondheim and Kristiansand with Danish railcars lent for the occasion. The so-called Bergen-line (Oslo-Bergen) whereon the fast railcars will especially be used is — apart from the electrified alpine railways — one of the most difficult European lines as regards gradients and curves.

are frequently electrified, especially where cheap water power is available, as in Norway, greatest attention was paid by railway circles to the decision taken by the Norwegian State Railways to motorise the passenger traffic on this section, because it represented a new way of accelerating the traffic on lines with numerous gradients. As the gradient conditions under consideration impose heavy demands upon the power plant of the railcars, the decision of the Norwegian State Railways, regarding the choice of the motive power, was awaited with special interest. It appears

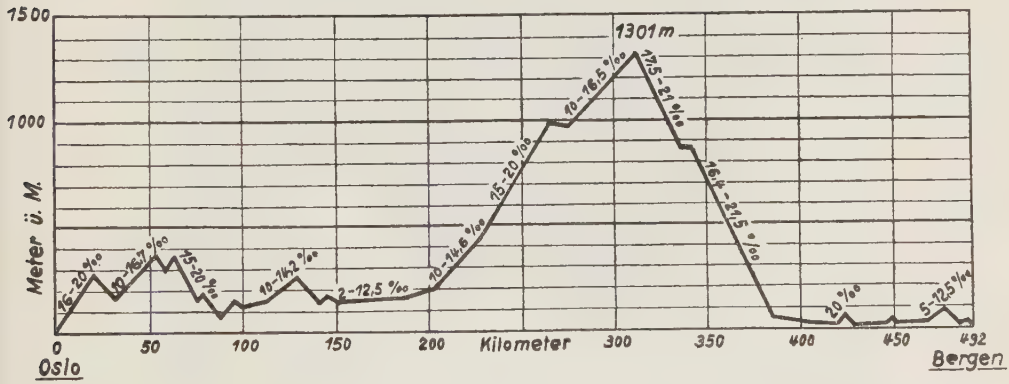


Fig. 1. — Gradient section of the Oslo-Bergen line, Norwegian State Railways.

As can be seen from the gradient section of the line (fig. 1), a difference in altitude of about 1 300 m. (4 330 ft.) has to be made good. This line, of a total length of 492 kilometres (306 miles) presents, among other features, in the one direction on a section of 100 km. (62 miles), a practically continuous gradient of 1 in 100 to 1 in 50, and in the other direction a gradient of 1 in 62.5 to 1 in 46.5 on a section of 73 km. (45.4 miles).

As lines with such or similar characteristics

evident that the Norwegian State Railways preferred for this heavy traffic an engine-make with which the widest experience in service was available. Such is the case of the well-known Maybach 12-cylinder 450-H. P. railcar diesel engine and its supercharged 650-H. P. type, as no less than 365 engines of this type are in service on the German State Railways and other European railway companies. Accordingly, the installation of 2 supercharged 650 - H. P. Maybach railcar

diesel engines into each of the 4 three-coach diesel-hydraulic fast railcars ordered so far, was provided for (see fig. 2). Including the engine equipment for a spare bogie, the Norwegian coach works A/S. Strömmens Vaerk-

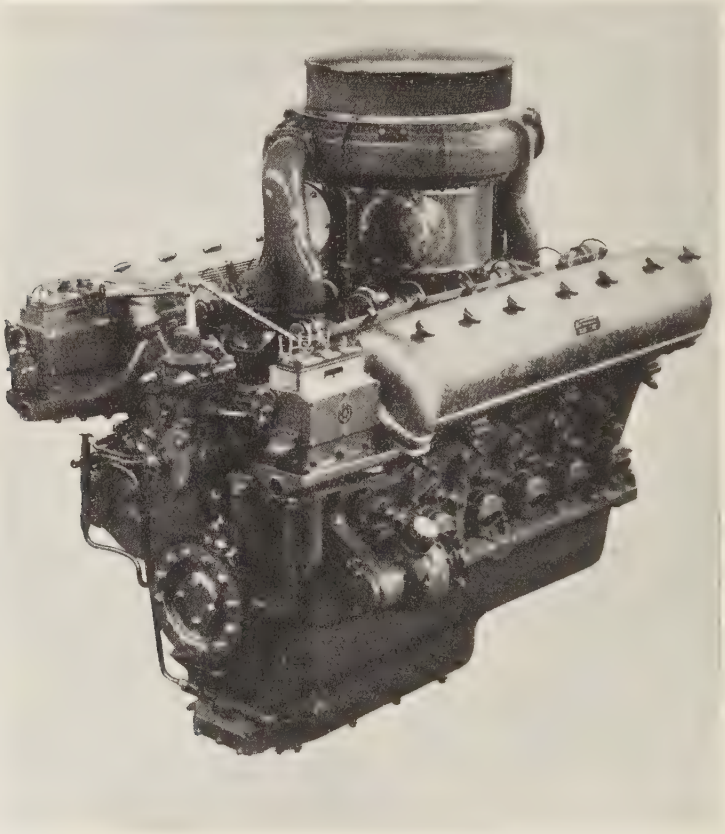


Fig. 2. — 12-cylinder 650-H. P. supercharged Maybach diesel engine.

sted. Strömmen, near Oslo, who are the builders of the vehicles, ordered from Maybach nine engines of the above-mentioned type. The engines, with their hydraulic transmission, will be installed in a well tried manner in the two end bogies of the railcars. Considering the characteristics of the line, the maximum speed was restricted to 120 km. (75 miles) an hour. In order to obtain the greatest possible specific motive power (H. P. per ton), which is absolutely desirable with regard to the heavy gradients to be coped with, light-weight constructional methods will be adopted extensively. These vehicles will, moreover, offer the greatest possible travelling comfort and will also include a dining compartment. The putting into service of these railcars will make it possible to considerably shorten the travelling time on the Oslo-Bergen line. While the regular express trains now need 11 to 12 hours for the run, the fast railcars will only require about 7 hours.

[656. 254 (.45)]

NEW BOOKS AND PUBLICATIONS.

KRAUSKOPF, Reichsbahnrat, Augsburg Division. — **Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn** (*Development and present position of automatic train control on the German State Railways*). — One volume (8 1/4 × 11 5/8 inches) of 166 pages with 283 figures. — 1939, Otto Elsner, Publisher, Berlin SW. 68 (Price : 6.40 Rm.).

The usefulness of devices to make good any failure on the part of the locomotive drivers has long been recognised. The first trials date back some decades, but extensive applications of the system are all relatively recent.

In view of the importance of the question, the Railway Congress Association has several times included it in the agenda of its Sessions, and each time extensive reports have been presented, and very interesting discussions taken place.

The subject is an ample and delicate one. The equipment in question must fulfil a great many conditions, in particular it must in no way lessen the feeling of responsibility of the driver, but leave him in charge of driving the train. Apart from any question of design, the devices may merely give the driver a warning (optical or audible) : these are cab-signals. Or, in case of danger, they may apply the brakes; this may be called automatic train control. The expression « Zugbeeinflussung » used by the author, which we have translated « automatic train control » can refer to either system, or to those which aim at achieving both these different objectives, but seems to refer above all to the actual action on the brake in case of danger or if too high a speed is reached.

In his work the author describes the apparatus tested or in use, classifying them from various points of view (in addition to that indicated above). According to the action of the track appliances on the train, it is possible to have continuous action over the whole line, or intermittent action, i. e. at certain given points. The transmission methods can be grouped into contact systems, either mechanical or electrical, and non-contact systems, either electro-optical or inductive. Finally the control of the driver's actions can be based on the vigilance principle, in which case all that is done is to make sure he has noticed the signal, when special importance is attached to the distant signal, or it is simply the speed that is checked; both these principles can be applied together.

The detailed drawings of apparatus, together with wiring diagrams where necessary, makes their working easily understood.

The most elaborate part of the book is that devoted to the magnetic-field type of installation. After explaining the first inventions, and their trials, the author reports the requirements for such equipment, laid down by the German Railways in March 1925, in the light of these experiences. This programme is interesting because it shows what the opinion of the Railway was already at that date on this subject, and all the specialist firms have since had to take this into account as a basis for their research work.

E. M.

[621. 13 (02 & 621. 157 (02]

NIEDERSTRASSER (L.), Oberreichsbahnrat. — **Leitfaden für den Dampflokomotivdienst** (*Manual for the steam locomotive staff*), third edition. — One volume (8 1/4 × 6 inches), of 466 pages, with 324 figures and 8 appended tables. — 1939, Leipzig, Verkehrswissenschaftliche Lehrmittelgesellschaft m. b. H. (Price : 6.40 Rm.).

The publication of the first two editions of Herr Niederstrasser's manual for the steam locomotive staff was reported in the December 1935 and December 1938 *Bulletin*, and the attention of readers called to the happy innovations of this work from the didactic point of view. The success of the second edition was so great that a third edition has been issued barely a year afterwards. This does not differ in any essential way from the previous edition, though the author has made use of the opportunity, when dealing with certain details, to replace certain figures by other more appropriate ones, and bring up to date the numerical data in the appended tables. A new chapter has also been added on automatic train control by the inductive system, now in use on many locomotives on the German State Railways. There is no doubt that this excellent manual will continue to enjoy the same favour as the former editions.

A. C.

[621. 431.72 (.43) & 621 431. 73 (43)]

Elsners Taschen-Jahrbuch für den Reichsbahn-Kraftverkehr (*Elsner's Handbook for the road and rail motor traffic of the German State Railways*), 1939 (4th year). — One volume (6 1/4 × 4 3/8 inches) of 396 pages with many figures. — 1939, Berlin, Otto Elsner, Publisher. (Price : 3.50 Rm.)

In the September, 1938, issue of the *Bulletin* we reported the publication of the three first editions of Elsner's annual handbook on the German State Railways' rail and road vehicles with petrol or diesel engines. The 1939 handbook consists of two main parts, one dealing with railcars, and the other with road motor vehicles. In addition, there are two chapters, one devoted to the trolleys used on the Reichsbahn, and the other to the diesel-engined boats operated by the Reichsbahn on Lake Constance.

The different chapters in the first part deal with the evolution and present principles of construction of railcars on the Reichsbahn, and give a brief description of the main types classified according to their power, with fuller details about the 12-cylinder Maybach engines, and 275-H. P. horizontal type engines. The second part reviews all the various characteristics of road vehicles : motor-buses, motor lorries, motor tractors, with both petrol and diesel engines. The fuel question is also dealt with, and the kinds of lubricants used, as well as the organisation of the maintenance and repair of motor vehicles.

This new volume in the series of annual handbooks published by Messrs. Elsner includes, therefore, most useful additional information on the vehicles with internal combustion engines utilised by the German State Railways, presented in a very systematic way.

A. C.

[388]

BENDTSEN (Paul, H.), Diplom. Engin., Royal Technical College, Copenhagen; Member, Institution of Danish Civil Engineers; Engineer, Danish State Railways. — **Urban and Suburban Railways.** — Studies of transport problems and network design. (Translated from the Danish by Micheli JESSEN). — One volume (6 3/4 × 9 3/4 inches) of 180 + XXXIX pages, with 50 figures and 72 tables. — Copenhagen, Dänmarks Naturvidenskabelige Samfund; 1 Kommission Hos. G.E.C. Gad. Vimmelskaftet, 32. (Price : 8 Kröner.)

In this work the author investigates the basic principles to be borne in mind when planning urban and suburban railways.

The first question which crops up is that of the layout of the network. The spacing of the stations and their best location has then to be determined, which raises several problems. First of all, that of the capacity of the lines, which depends on the make-up of the trains, on their speed, on the distance between stations and on the signalling system.

The usefulness of a line is also dependent on the density of the population and the extent to which the population actually uses the line. Each station has a zone of influence, of varying extent and contour, which supplies patrons to the line.

The author examines these various aspects of the problem in the light of data collected about the urban railways in the chief big cities of the world. He also recalls the formulæ set forth by different authors for drawing up estimates of future traffic, based on statistical information, and he in turn proposes some formulæ.

In support of his statements and of considerations of a rather theoretical nature, he brings up a concrete case, that of the city of Copenhagen.

He shows how, in his opinion, the urban railway system of Copenhagen should by planned in order to take into account the anticipated growth of the population and its distribution.

E. M.

[621. 456]

WILLIAMS (D. S. D.), A. M. I. A. E., and MILLAR SMITH (J.), B. Sc. — **The Oil Engine Manual.** — A volume (8 1/2 × 5 1/2 inches) of 368 pages with 350 illustrations. — 1939, Published for Temple Press, Ltd., by the English Universities Press, Ltd., Warwick Square, London. (Price : 5 s. 6 d. post free.)

This new manual, which has been compiled by members of the technical Committee of the Review *The Oil Engine*, covers the whole field of utilisation of the diesel engine, for industrial purposes as well as for rail, road and aircraft use.

The first part reviews the evolution of the oil engine and then deals with the working principles, the various fuel injection systems, pressure charging, lubrication and maintenance.

Then follows a description of the various industrial oil engines of British construction, subdividing them in horizontal and vertical types; each chapter sums up in table form the chief characteristics of the engines concerned. This part of the work also deals with electric power station oil engines.

The characteristics of road vehicle and rail traction engines are then examined; this part of the work is also confined to engines of British design; whilst noting the fact that the use of oil-engined railcars has not been developed in Great Britain to the same extent as in many other countries, the work

describes some twenty designs of rail-car engines of British construction, mostly for use abroad.

The chapter dealing with the present position of the aircraft diesel engine is also of particular interest.

An appendix comprises various notes in connection with fuel standards, engine power calculations, oil-engined road vehicle operating costs, etc.

This manual, which is particularly well printed and illustrated, will prove of great assistance to engineers in the many branches of industry in which the applications of the oil engine are in full development.

A. C.

[621. 34]

BESSER (F.), Geheimer Baurat. — **Durchhänge und Zugspannungen von Freileitungen. D. Z. Kurve** *(Sags and mechanical tensions in electric overhead lines. The D. Z. Curve)*. — A pamphlet (11 3/4 × 8 inches) of 52 pages, illustrated, and with 2 inset plates. — 1939, Berlin, Franckh'sche Verlagshandlung. (Price, bound in stout paper : 4.80 Rm.).

Herr BESSER has just made known in the above-mentioned work, a general method of ascertaining mechanical tensions and sags in electric overhead lines.

The process is essentially graphical and uses a standard curve, called D. Z. curve.

This curve is suitable for all spans and the various metals generally used.

It is possible, by means of a simple diagram made up of straight lines, to solve all current problems arising in practice in the matter of aerial conductors.

In short, as is known, a metal wire stretched between two supports can be subject to two effects tending to make its mechanical tension vary, viz. :

(1) variations in length, i. e. expansion or contraction, due to temperature changes;

(2) variations in weight per unit length, due to the action of wind or the presence of snow, or ice.

Given the initial erecting conditions of a conductor, the method allows of quickly solving the problem consisting in ascertaining the tensions under all temperatures and additional loads.

It is a very well produced book, and many examples given in it facilitate the application of the method.

J. D.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(**JANUARY 1939**)

16. 385. (02]

I. — BOOKS.

In French.

8 691

EL (L.).

éléments de la fabrication du béton, choix et pré-on des métaux.

sanne, Rouge & Cie. 1 volume, 120 pages, 7 ta- et 28 figures. (Prix : 6 fr. suisses.)

8 621 .43

ET.

moteurs à huile lourde à injection pneumatique écanique.

is (5e), Librairie de l'Enseignement Technique. me, 154 pages et 76 figures. (Prix : 48 fr. français.)

9 531

IER (J.).

régulateurs.

is, Dunod, 92, rue Bonaparte. 1 volume, 195 pages figures. (Prix : 68 fr. français.)

8 625 .6 (06

Ve Congrès international de tramways, de chemins d'intérêt local et de transports publics automo-

Vienne, 27 juin - 3 juillet 1937. Comptes rendus lés.

xelles, Secrétariat Général de l'Union, 18, Avenue Toison d'Or. 1 volume, 154 pages et figures.

8 656 .222.1

ER (L.), professeur à l'Université de Bruxelles.

sses et services des trains. Tome deuxième : *Les pays d'Europe à l'exception de la Grande-Bre- et de la France.* Un volume (24 × 18 cm.) de + 600 pages avec de nombreuses cartes et il-tions. Extrait du *Bulletin de l'Association inter-ale du Congrès des Chemins de fer.*

In German.

8 624 & 625 .113

ER (J.).

Einfluss von Gleiskrümmung und Fliehkraft auf rnen Eisenbahnbrücken.

in, Wilhelm Ernst und Sohn. 1 Heft, 49 Seiten 6 Abbildungen. (Preis : 3.80 R. M.)

1938 665 .882

HOLLER (H.).

Leitfaden für Autogenschweisser.

Halle a. S., C. Marhold. 1 Band, 304 Seiten und 371 Abbildungen. (Preis : 4.50 R. M.)

1938 69. (02

KIRCHHOFF (R.).

Die Statik der Bauwerke in drei Bänden. III. Band : Methoden besonderer Art zur Berechnung statisch unbestimmter Systeme unter besonderer Berücksichtigung der neuzeitlichen hochgradig statisch unbestimmten Bauwerke. Die Elastizitätstheorie der Gewölbe.

Berlin, Wilhelm Ernst und Sohn. 1 Band, 178 Textabbildungen. (Preis : 18 R. M.)

1938 625 .26 (.43)

KREUTZ (F.).

Der Reichsbahn-Wagenmeister und Wagenwerkmeister.

Berlin, S. W. 68, Hermann Klokow. 1 Band, 287 Seiten. (Preis : 4.80 R. M.)

1938 691

LÖSER (B.).

Bemessungsverfahren.

Berlin, Wilhelm Ernst und Sohn. 1 Band, 214 Seiten, 71 Tafeln und 217 Abbildungen. (Preis : 7.40 R. M.)

1938 621 .335 (.43)

LOTTER (G.).

Die elektrischen Lokomotiven der Deutschen Reichsbahn. 2. Teil : Entwicklungsgeschichte von 1924 bis 1937.

Leipzig, Verkehrswissenschaftliche Lehrmittelgesellschaft m. b. H. 1 Heft, 60 Seiten, 21 Bildtafeln. (Preis : 2.25 R. M.)

1938 624 .2

LÜHRS (J.).

Praktische Berechnung durchlaufender Träger.

Berlin, Otto Verlagsgesellschaft. 1 Band. (Preis : 5 R. M.)

) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress ntly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to ay Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 99).

1938 624 .2
MÖRSCH (E.).
Der durchlaufende Träger.
Stuttgart, K. Wittwer. 1 Band, 387 Seiten und 350 Abbildungen. (Preis : 23.50 R. M.)

1938 621 .392
SAHLING (B.).
Die Schweisstechnik des Bauingenieurs.
Berlin, Otto Elsner, Verlagsgesellschaft. 1 Band, 74 Seiten mit 151 Textabbildungen. (Preis : 2.40 R. M.)

1938 656 .23
SPIESS (W.).
Der Eisenbahntarif und seine Beeinflussung durch die konkurrierenden Verkehrsmittel.
Stuttgart, W. Kohlhammer. 1 Heft, 20 Seiten. (Preis : 0.90 R. M.)

1938 721 .9
Stahl im Hochbau.
Düsseldorf, Verlag Stahleisen, m. b. H. und Berlin, Julius Springer. 1 Band, 770 Seiten und 2 000 Textabbildungen. (Preis : 12 R. M.)

1938 385. (.43)
TREIBE (P.).
Reichsbahnverkehrsprobleme unter dem Vierjahresplan.
Hamburg, Hanseatische Verlagsanstalt, A. G. 1 Heft, 25 Seiten. (Preis : 1.20 R. M.)

1938 721 .9
UNHOLD (G.).
Stahlbau-Kalender 1938.
Berlin, Wilhelm Ernst und Sohn. 1 Band, 527 Seiten, 1 182 Textabbildungen. (Preis : 4.50 R. M.)

1938 385 .571 (.43)
Verzeichnis der oberen Reichsbahnbeamten 1938.
Leipzig, Verkehrswissenschaftliche Lehrmittelgesellschaft. 1 Band, 584 Seiten. (Preis : 10.80 R. M.)

1938 385
WIEDENFELD (K.).
Die Eisenbahn im Wirtschaftsleben.
Berlin, Julius Springer. 1 Band, 143 Seiten. (Preis : 6 R. M.)

1938 691
WIEDERHOLT (W.).
Metallschutz.
Leipzig und Berlin, B. G. Teubner. 1 Band, 106 Seiten und 57 Abbildungen. (Preis : 3.60 R. M.)

In English.

1938 656. (06 (.73)
A National Transportation Program.
Chicago, Ill., Transport Association of America, 400, West Madison Street. Vols. I and II and supplement No. 1.

1938 621
ANDERSON (J. W.).
Diesel engineering. A textbook.
London, McGraw-Hill Publishing Company, L. (Price : 18 sh.)

1938 656 .25 (.7
ASSOCIATION OF AMERICAN RAILROADS (A.A.R. SIGNAL SECTION.
American Railway Signaling Principles and Practic
Chapter XXIV : Power Distribution Systems a Lightning Protection. — A pamphlet (8 × 6 inches) 34 + 12 pages, illustrated.
Published by the Signal Section of the A. A. 30, Vesey Street, New York, N. Y. — [Price : 30 cer (20 cents to members and railroad employees). Cost the set of twenty-two chapters issued : 7 dollars (4. dollars to members and railroad employees). Binder accommodate 13 chapters : 1 dollar. — Two binders w accommodate the whole series.]

1938 691 & 6
BARKAS (W. W.).
Recent **work on the moisture in wood in relation strength and shrinkage.**
London, His Majesty's Stationery Office, York Hou Kingsway, W. C. 2. (Price : 9 d. net.)

1938 625 .144
BARTLETT (Ch.).
The string-lining of curves made easy.
Chicago, Simmons-Boardman Publishing Co., 105, We Adam Street. 11 × 8 1/2 in. (Price : 50 cents.)

1938 621
COATES (W. A.) and PEARCE (H.).
The switchgear handbook. Volume I. **Apparatus.**
London. Sir Isaac Pitman and Sons, Ltd. (Price 16 sh. net.)

1938 621 .3
DAHL (O. G. C.).
Electric power circuits, theory and applications. Vo II. **Power system stability.**
London, McGraw-Hill Publishing Co., Ltd., Aldwyc House, W. C. 2. 698 pages, 9 × 6, 317 illustration (Price : 42 sh. net.)

1938 69
FULLER (C. A.).
Air conditioning.
New York, Norman W. Henley Publishing Co., Clotl 6 × 9 in., 577 pp., illustr., diagrams, charts, table (Price : $ 4.)

1938 656. (093 (.71
GLAZEBROOK (G. P. de T.).
A history of transportation in Canada.
New Haven, Toronto and Yale University Press 475 pp. (Price : $ 4.)

1938 385. (08 (.593
GOVERNMENT OF SIAM.
Thirty eighth annual **report on the administration o the Royal State Railways** for the year, Buddhist era 2477.
Bangkok, Royal State Railways Printing Office 51 pp., diagrams & tables. (No price stated.)

1938 **529.** (06

Journal of **Calendar reform**, September.

New York, The World Calendar Association, Inc., 630, Fifth Avenue. 47 pp. (No price stated.)

1939 **62.** (02

Kempe's Engineer's year-book. Forty fifth edition.

London, Morgan Brothers, Ltd., 28, Essex Street, W. C. 2. Over 2 700 pages, illustrated, Crown 800 (7" × 5" × 3"), limp leather binding, gilt. (Price : 11 sh. 6 d. net.)

1938 **621 .43 & 662**

NASH (A. W.) and HOWES (D. A.).

Principles of motor fuel preparation and application. Vol. 1. Second edition.

New York, John Wiley & Sons. Cloth, 6 × 10 in., 628 pp., illus., diagrams, charts, tables. (Price : $ 9.50.)

1938 **621 .392**

POTTER (M. H.).

Electric welding. A practical text covering the fundamental principles and applications of the various types of electric arc welding, including the use of power tube rectifiers.

Chicago, American Technical Society. — London, The Technical Press, Ltd. (Price : 5 sh. net.)

1938 **669 .1** (06

THE IRON AND STEEL INSTITUTE.

Special Report, No. 23. Third report of the **Steel Castings** Research Committee.

London, Offices of the Institute. (Price : 10 sh.)

1938 **385.** (08 (.68)

Union of South Africa. **Report of the Central Road Transportation Board** for the year ended 31st March, 1938.

Pretoria, Government Printer. 41 pp. (Price : 2 sh.)

1938 **621 .43**

von BONGART (B. J.).

Diesel engines.

New York, D. Van Nostrand Co. Cloth, 6 × 10 in., 335 pp., illus. diagrams, charts, tables. (Price : $ 5.50.)

1938 **62.** (01 & **721 .3**

Working stresses in steel columns (British Standard).

Edinburgh. Redpath, Brown and Co., Ltd., 2, St. Andrew Square. Distributed free to approved applicants.

In Italian.

1936 **313 : 625 .6** (.45)

MINISTERO DELLE COMUNICAZIONI.

Dati statistici per gli anni 1931-1932-1933. IV. Servizi vari.

Roma, Istituto Poligrafico dello Stato. 1 volume. 395 pagine.

1937 **313 : 625 .6** (.45)

MINISTERO DELLE COMUNICAZIONI.

Dati statistici per l'anno 1934.

I. Ferrovie concesse all'industria privata e tramvie estraurbane. 1 volume, 301 pagine.

1937 **313 : 656 .1** (.45)

MINISTERO DELLE COMUNICAZIONI.

Dati statistici per l'anno 1934.

II. Servizi automobilistici estraurbani. 1 volume. 595 pagine.

1937 **313 : 625 .6** (.45)

MINISTERO DELLE COMUNICAZIONI.

Dati statistici per l'anno 1934.

III. Servizi vari.

Roma, Istituto Poligrafico dello Stato. 1 volume, 277 pagine.

[**016. 385.** (05]

II. — PERIODICALS.

In French.

Annales des travaux publics de Belgique. (Bruxelles.)

1938 **625.** (06 (.492)

Annales des travaux publics de Belgique, octobre, p. 887.

DEVALLÉ (A.). — **VIIIe Congrès international de la route** à La Haye. (16 900 mots & fig.)

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

1938 **385.** (09 (.481)

Bull. de l'Assoc. française des amis des ch. de fer, septembre, p. 185.

VUILLET (G.). — **Les chemins de fer de la Norvège.** (4 000 mots & fig.)

1938 **656 .222.5** (.44)

Bull. de l'Assoc. française des amis des ch. de fer, septembre, p. 192.

CAIRE (D.). — **Le service d'hiver 1938** à la Société Nationale des Chemins de fer français. (7 500 mots & fig.)

Economie et technique des transports. (Lucerne.)

1938 **621 .335** (.45)

Economie et technique des transports, septembre-octobre, p. 103.

ROSSI (P. P.). — **Moderner Triebwagen** für Überlandverkehr. (1 300 mots & fig.)

1938 **621 .335**

Economie et technique des transports, septembre-octobre, p. 114.

KOHLER (J.). — **Réduction de poids des équipements électriques de traction.** (1 500 mots & fig.)

Electricité. (Paris.)

1938 **621 .132.8 (.44) & 621 .43 (.44)**

Electricité, octobre, p. 329.

ABRY. — Les **locomotives Diesel électriques** à grande vitesse de la région Sud-Est de la Société Nationale des Chemins de fer français. (3 000 mots & fig.)

Génie civil. (Paris.)

1938 **656. (.44)**

Génie civil, n° 2933, 29 octobre, p. 366.

La **coordination** du rail et de la route. Décrets du 12 octobre 1938. (3 000 mots & fig.)

1938 **627 .82 (.73)**

Génie civil, n° 2934, 5 novembre, p. 381; n° 2935, 12 novembre, p. 409.

CAUFOURIER (P.). — Le **barrage Boulder,** sur le Colorado (Etats-Unis). (7 600 mots & fig.)

1938 **656 (.44)**

Génie civil, n° 2934, 5 novembre, p. 390.

La **coordination du trafic** entre la voie ferrée et la voie d'eau, en France. (2 400 mots, 2 tableaux & fig.)

1938 **691**

Génie civil, n° 2934, 5 novembre, p. 392.

Influence du mode et de la durée du gâchage sur les **caractéristiques des bétons.** (1 800 mots & fig.)

1938 **691**

Génie civil, n° 2935, 12 novembre, p. 414.

La microgéométrie des surfaces métalliques, et son application à l'étude de la **corrosion.** (1 700 mots & fig.)

1938 **669. (06**

Génie civil, n° 2936, 19 novembre, p. 429.

Le **VIe Congrès international de fonderie** (Varsovie et Cracovie, 8-17 septembre 1938). (4 000 mots.)

1938 **62. (01**

Génie civil, n° 2936, 19 novembre, p. 435.

NICOLSKY (V. A.). — Règles d'application de **l'épure de Mohr.** (900 mots & fig.)

La construction métallique. (Bruxelles.)

1938 **385. (01 (.493)**

La construction métallique, 15 octobre, p. 3.

RULOT (N.). — Le **réseau ferré belge.** (900 mots.)

1938 **625 .23 (.493)**

La construction métallique, 15 octobre, p. 8.

Les **voitures métalliques** de la Société Nationale des Chemins de fer belges. (3 100 mots & fig.)

1938 **621 .392 & 625 .2**

La construction métallique, 15 octobre, p. 49.

L'évolution de la construction du **matériel roulant** par l'emploi de la **soudure.** (2 100 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1938 **624 .32 (.4**

L'Ossature métallique, novembre, p. 450.

Les **ponts** sur le Ziegelgraben et sur le Strelasund, Allemagne. (5 400 mots & fig.)

1938 **624 .32 (.4**

L'Ossature métallique, novembre, p. 468.

SECKLER (G.). — Un grand **pont-rails** à béquill près de Strasbourg. (1 600 mots & fig.)

1938 **6**

L'Ossature métallique, novembre, p. 472.

FOOTNER (H. B.). — La préparation des constru tions en acier avant **peinture.** (5 800 mots.)

1938 **624**

L'Ossature métallique, novembre, p. 483.

COLONNETTI (G.). — De la **résistance des poutr fléchies** en régime élasto-plastique. (3 300 mots & fig

Revue générale des chemins de fer. (Paris.)

1938 **625 .**

Revue générale des chemins de fer, novembre, p. 2

BANCELIN & RENAULT. — **Insonorisation** du m tériel roulant. (10 000 mots & fig.)

1938 **656 .221 (.4**

Revue générale des chemins de fer, novembre, p. 2

BAUDEZ. — Exploitation de la ligne de petite Cei ture de Paris (Courcelles à Auteuil-Boulogne viâ I Rapée-Bercy) au moyen d'un **organisme de command et de surveillance** appelé « régulateur petite ceinture (1 600 mots & fig.)

1938 **385 .58 (.4**

Revue générale des chemins de fer, novembre, p. 2

La **convention collective du personnel** du cadre pe manent de la Société Nationale des Chemins de f français. (3 200 mots.)

1938 **656 .257 (.7**

Revue générale des chemins de fer, novembre, p. 25

Un nouveau système de **commande d'itinéraires pa boutons-poussoirs.** (1 300 mots & fig.)

Revue politique et parlementaire. (Paris.)

1938 **6**

Revue politique et parlementaire, 10 septembre, p. 6

VIVENT (J.). — Le rôle des **transports aériens** da l'économie nationale. (8 200 mots.)

Revue universelle des Mines. (Liége.)

1938 **621 .**

Revue universelle des mines, novembre, p. 765.

BODART (E.). — Etude du **coefficient de frottemen** dans la phase onctueuse. (9 000 mots & fig.)

1938 **69**

Revue universelle des mines, novembre, p. 786.

JORET (Th.). — Quelques aspects de la chimie d **peintures et vernis.** (4 300 mots.)

In German.

Archiv für Eisenbahnwesen. (Berlin.)

1938 **385.** (29 (.43)
Archiv für Eisenbahnwesen, Mai-Juni, S. 525.
KITTEL (Th.). — Die **Deutsche Reichsbahn** in Österreich. (3 400 Wörter.)

1938 **385.** (09.3 (.436)
Archiv für Eisenbahnwesen, Mai-Juni, S. 535.
SOMMER (G.). — Die **geschichtliche Entwicklung der Eisenbahnen** in Österreich. (6 000 Wörter.)

1938 **656**
Archiv für Eisenbahnwesen, Mai-Juni, S. 551.
WIEDENFELD (K.). — Die **Verkehrsaufgaben** zur deutschen Wirtschaftsgestaltung. (22 600 Wörter.)

1938 **388 & 656 .234**
Archiv für Eisenbahnwesen, Mai-Juni, S. 611.
GÜNTER (W.). — Die technisch-wirtschaftlichen Grundlagen für den **Fahrpreis der liniengebundenen** städtischen Verkehrsmittel. (10 600 Wörter.)

1938 **656.** (.43)
Archiv für Eisenbahnwesen, Mai-Juni, S. 641.
KRUMSTROH. — Die gegenwärtige Organisation der **Strassenverwaltung** in Deutschland. (12 500 Wörter & Karte.)

1938 **623.** (.43)
Archiv für Eisenbahnwesen, Mai-Juni, S. 678.
MEINKE (B.). — Beiträge zur frühesten Geschichte des **Militäreisenbahnwesens.** (10 000 Wörter & Karte.)

1938 **656 .225** (.42)
Archiv für Eisenbahnwesen, Mai-Juni, S. 709.
WERNEKKE. — **Stahl und Eisen, Holz und Kohle** bei den englischen Eisenbahnen. (3 800 Wörter.)

1938 **656** (.469)
Archiv für Eisenbahnwesen, Mai-Juni, S. 719.
PASCHEN (W.). — Das **Verkehrswesen** Portugals im Jahrzehnt 1926-1935. (6 000 Wörter.)

1938 **385.** (09 (.56)
Archiv für Eisenbahnwesen, Mai-Juni, S. 739.
DIECKMANN. — Die **türkischen Staatsbahnen.** (4 200 Wörter.)

1938 **656 .1** (.436)
Archiv für Eisenbahnwesen, Mai-Juni, S. 753.
REINIGE. — **Kraftwagenbetrieb** der Österreichischen Bundesbahnen im Jahre 1935 und 1936. (1 900 Wörter.)

1938 **385 .4** (.436)
Archiv für Eisenbahnwesen, Juli-August, S. 825.
GÜNTHER BERKA. — Die **Organisation der Verwaltung** der ehem. Österreichischen Bundesbahnen. (2 700 Wörter.)

1938 **385 .4** (.436)
Archiv für Eisenbahnwesen, Juli-August, S. 833.
TÖPFER (R.). — **Organisation des Betriebsdienstes** der ehemaligen österreichischen Eisenbahnen. (1 900 Wörter.)

1938 **385.** (.436)
Archiv für Eisenbahnwesen, Juli-August, S. 849.
KATZIANTSCHITSCH. Die **wirtschaftliche Struktur Osterreichs.** (5 000 Wörter.)

1938 **385 .113** (.43)
Archiv für Eisenbahnwesen, Juli-August, S. 877.
Die **Leistungen** der Deutschen Reichsbahn nach dem Geschäftsbericht 1937. (12 200 Wörter.)

1938 **385 .113** (.493)
Archiv für Eisenbahnwesen, Juli-August, S. 971.
Die **Nationale Gesellschaft der Belgischen Eisenbahnen** in den Jahren 1935 und 1936. (6 600 Wörter.)

1938 **656 .233** (.42)
Archiv für Eisenbahnwesen, Juli-August, S. 993.
WERNEKKE. — Die **Abrechnungsstelle** der englischen Eisenbahnen. (3 600 Wörter.)

1938 **351 .757** (.43) **& 351 .812.1** (.43)
Archiv für Eisenbahnwesen, September-Oktober, S. 1069.
KOPPIN. — Die **gewerberechtliche Stellung** der Deutschen Reichsbahn. (29 000 Wörter.)

1938 **385.** (09.3 (.43)
Archiv für Eisenbahnwesen, September-Oktober, S. 1131.
WESSEL (L.). — **Geschichte** der Kurhessischen Eisenbahnpolitik. (14 800 Wörter & Karten.) (Fortsetzung folgt.)

1938 **388 & 656 .234**
Archiv für Eisenbahnwesen, September-Oktober, S. 1203.
GÜNTER (W.). — Die technisch-wirtschaftlichen Grundlagen für den Fahrpreis der **liniengebundenen städtischen Verkehrsmittel.** (11 500 Wörter.)

1938 **625 .6** (.43)
Archiv für Eisenbahnwesen, September-Oktober, S. 1235.
WEISFLOG (R.). — Die nebenbahnähnlichen **Kleinbahnen** im Deutschen Reiche im Jahre 1935. (9 100 Wörter.)

1938 **385 .113** (.494)
Archiv für Eisenbahnwesen, September-Oktober, S. 1265.
NITSCHKE. — Die **Schweizerischen Bundesbahnen** im Jahre 1937. (2 800 Wörter.)

1938 **385 .113** (.725)
Archiv für Eisenbahnwesen, September-Oktober, S. 1273.
PAUSIN. — Die **Mexikanischen Nationaleisenbahnen** in den Jahren 1933 bis 1936. (3 300 Wörter.)

1938 **656 .232**
Archiv für Eisenbahnwesen, September-Oktober, S. 1283.
WERNEKKE. — **Kosten des Verkehrs** in England. (2 000 Wörter.)

Die Reichsbahn. (Berlin.)

1938 **347 .763.4 (.43) & 385. (09.3 (.43)**
Die Reichsbahn, Heft 44/45, 2./9. November, S. 1056.
STUMPF (B.). — Die Entstehung des **preussischen Eisenbahngesetzes** vom 3. November 1838. (49 000 Wörter.)

1938 **656 .212.6**
Die Reichsbahn, Heft 46, 16. November, S. 1117.
BAXMANN. — Die fahrbare und ausziehbare **Ladezunge.** (1 800 Wörter & Abb.)

1938 **656 .212.6**
Die Reichsbahn, Heft 46, 16. November, S. 1120.
SUPPER (C.). — Zwei Geräte zur **Vereinfachung des Ladegeschäftes** und zur Verhütung von Güterbeschädigungen. (1 500 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1938 **624 .2**
Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 369.
MORGENROTH (F.). — Der Einfluss der Lokomotivtriebräder auf die **dynamische Beanspruchung der Brücken.** (5 300 Wörter & Abb.)

1938 **621 .132.8 & 621 .43**
Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 379.
SCHRADER. — Die **Diesellokomotive** mit unmittelbarem Antrieb. (1 600 Wörter & Abb.)

1938 **624 .2 (.45)**
Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 381.
Bestimmung der **dynamischen Wirkung auf Stahlbrücken** bei den Italienischen Staatseisenbahnen. (800 Wörter.)

1938 **625 .141**
Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 382.
HILDENBRANDT. — Eisenbahngleise auf **Eisenbetonplatten.** (800 Wörter & Abb.)

1938 **624 .62 (.489)**
Organ für die Fortschr. des Eisenbahnw., Heft 21, 1. November, S. 385.
FLENSBORG (H.). — Der Bau der **Brücke** über den Oddesund. (4 200 Wörter & Abb.)

1938 **625 .212**
Organ für die Fortschr. des Eisenbahnw., Heft 21, 1. November, S. 392.
KÖNIG (H.). — Zur Frage der Entwicklung **neuer Wagenradsatzbauformen.** (3 300 Wörter & Abb.)

1938 **385. (09.3 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 21, 1. November, S. 396.
CAPELLE (G.). — **Hundert Jahre Eisenbahn** Berlin-Potsdam. (1 400 Wörter & Abb.)

1938 **625 .245 (.42**
Organ für die Fortschr. des Eisenbahnw., Heft 21, 1. November, S. 399.
Stossverzehrender Güterwagen der London Midland und Schottland Eisenbahn. (300 Wörter.)

1938 **625 .1**
Organ für die Fortschr. des Eisenbahnw., Heft 22, 15. November, S. 403.
CZITARY (E.). — Beitrag zur Berechnung des **Querschwellenoberbaues.** (4 000 Wörter & Abb.)

1938 **621 .132.8 (.44) & 621 .43 (.44**
Organ für die Fortschr. des Eisenbahnw., Heft 22, 15. November, S. 412.
BOETTCHER. — Die zweite französische **Grossdieselokomotive.** (2 300 Wörter & Abb.)

1938 **621 .392 & 625 .21**
Organ für die Fortschr. des Eisenbahnw., Heft 22, 15. November, S. 416.
OSINGA (J. R.). — Die Verwendung von geschweissten **Hohlträgern im Waggonbau.** (600 Wörter & Abb.

1938 **621 .133.7**
Organ für die Fortschr. des Eisenbahnw., Heft 22, 15. November, S. 416.
Fahrbare Reinigungsanlage für Lokomotiv-Speisewasservorwärmer. (1 400 Wörter & Abb.)

1938 **621 .133.2**
Organ für die Fortschr. des Eisenbahnw., Heft 22, 15. November, S. 418.
Messungen der Wandungstemperaturen in kupfernen und stählernen **Lokomotivfeuerbüchsen.** (1 100 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1938 **621 .8**
Zeitsch. des Ver. deutsch. Ing., Nr. 44, 29. Oktober, S. 1269.
HAAS (B.). — Einfluss der Muttergrösse auf die Festigkeit der **Schraubenverbindung.** (4 700 Wörter & Abb.)

1938 **621 .8**
Zeitsch. des Ver. deutsch. Ing., Nr. 44, 29. Oktober, S. 1282.
Zur Kenntnis der **Gleitlagerreibung.** (2 100 Wörter & Abb.)

1938 **624 & 721 .**
Zeitsch. des Ver. deutsch. Ing., Nr. 45, 5 November, S. 1301.
FINSTERWALDER (U.). — **Eisenbetonträger** mit Vorspannung durch Wirkung des Eigengewichtes. (2 600 Wörter & Abb.)

1938 **625 .21**
Zeitsch. des Ver. deutsch. Ing., Nr. 47, 19. November, S. 1348.
Über den **Lauf zweiachsiger Güterwagen.** (1 200 Wörter & Abb.)

1938 621 .43
itsch. des Ver. deutsch. Ing., Nr. 47, 19. November, S. 1350.
HENZE (K.). — **Zahnrad-Wechselgetriebe** für Trieb-gen. (2 400 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1938 656 .257
itschr. für das ges. Eisenb.-Sicherungs- und Fern-meldew., Nr. 14, 1. November, S. 161.
NEUMANN (G.). — **Elektrische Mehrreihenstell-erke.** (1 700 Wörter & Abb.)

1938 656 .257
itschr. für das ges. Eisenb.-Sicherungs- und Fern-meldew., Nr. 14, 1. November, S. 166.
REHSCHUH (G.). — **Fernsteuerung von Weichen d Signalen** mit Hilfe von Schrittschaltern. (1 800 örter & Abb.)

Zeitung des Vereins Mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1938 656 .212.9 (.481)
itung der Ver. mitteleurop. Eisenbahnverw., Nr. 44, 3. November, S. 821.
LOKEN. — Versuche der Norwegischen Staatsbahnen **it vereinfachter Abfertigung und Abrechnung des ückguts.** (2 300 Wörter.)

1938 656 .235 (.484)
itung der Ver. mitteleurop. Eisenbahnverw., Nr. 44, 3. November, S. 824.
PASZKOWSKI (F.). — Die letzten Erhöhungen des rwegischen **Güter- und Tiertarifs.** (1 300 Wörter.)

1938 385 .4 (.44)
itung der Ver. mitteleurop. Eisenbahnverw., Nr. 44, 3. November, S. 826.
Die **Satzung und das Lastenheft** der Französischen taatseisenbahn-Gesellschaft. (5 700 Wörter.)

1938 385. (.43)
itung der Ver. mitteleurop. Eisenbahnverw., Nr. 45, 10. November, S. 841.
FRIEBE. — Die neue **Eisenbahn-Verkehrsordnung.** 800 Wörter.)

1938 385. (072 (.43)
itung der Ver. mitteleurop. Eisenbahnverw., Nr. 45, 10. November, S. 843.
ZWICKER. — **Chemische Prüfung** von Stoffen und erkehrsgütern bei der Reichsbahn. (6 500 Wörter & bb.)

1938 385. (09 (.47.4)
itung des Ver. mitteleurop. Eisenbahnverw., Nr. 46, 17. November, S. 862.
RUNGIS (J.). — Die **Entwicklung der Eisenbahnen** den Baltischen Staaten. (7 300 Wörter & Abb.)

1938 656 .233 (.438)
Zeitung der Ver. mitteleurop. Eisenbahnverw., Nr. 46, 17. November, S. 872.
Polen als **Transitgebiet.** (1 800 Wörter.)

In English.

Bulletin, American Railway Engineering Association. (Chicago.)

1938 621 .3 (.73)
Bulletin, American Railway Engineering Association, No. 405, September-October, p. 1.
Reports of the Committees of the Electrical Section, Engineering Division. A. A. R. **Electrical power** available for railroad use. **Electrolysis. Reconditioning of flood damaged electrical equipment.** New **developments in the motor field,** etc. (20 000 words & fig.)

1938 625 .142.2 (.73) & 625 .143.5 (.73)
Bulletin, American Railway Engineering Association, No. 405, September-October, p. 65.
GRAHAM (F. M.). — Damage to wooden crossties from **tie plate penetration.** (8 000 words & fig.)

Engineer. (London.)

1938 624 .8 (.42)
Engineer, No. 4319, October 21, p. 432.
Marine Parkway bridge. (3 800 words & fig.)

1938 621 .9
Engineer, No. 4319, October 21, p. 441.
SWIFT (H. W.). — The functions of **cutting fluids.** (3 600 words & fig.)

1938 621 .334. (.42)
Engineer, No. 4319, October 21, p 451.
A flameproof locomotive. (200 words & fig.)

1938 621 .31
Engineer, No. 4319, October 21, p. 452.
Mutators with uncontrolled and controlled grids. (2 000 words & fig.)

1938 621 .31 (.42)
Engineer, No. 4320, October 28, p. 460.
The Clarence Dock **Power Station.** (4 700 words & fig.)

1938 621 .31
Engineer, No. 4321, November 4, p. 495.
RISSIK (H.). — **Circuit breaker standards.** (4 400 words & fig.)

1938 621 .31
Engineer, No. 4321, November 4, p. 509.
Single-phase to three-phase conversion. (1 700 words & fig.)

1938 **621 .392**
Engineer, No. 4321, November 4, p. 510.
A large **resistance welder.** (200 words & fig.)

1938 **624 .62 (.73)**
Engineer, No. 4321, November 4, p. 512.
Upper deck of Henry Hudson **bridge.** (1 700 words & fig.)

1938 **621 .39 & 621 .9**
Engineer, No. 4322, November 11, p. 520.
Individual electric driving. (2 700 words & fig.) (To be continued.)

1938 **623**
Engineer, No. 4322, November 11, p. 529.
CHATLEY (H.) and GUTTERIDGE (H.). — Engineering aspects of **air raid protection.** (5 000 words.)

1938 **669. (06 (.42)**
Engineer, No. 4322, November 11, p. 536.
Institute of metals. **Copper-aluminium alloys.** (2 300 words.)

1938 **621 .335**
Engineer, No. 4322, November 11, p. 538.
The metadyne applied to electric traction. (5 800 words & fig.)

1938 **656**
Engineer, No. 4322, November 11, p. 543.
SZLUMPER (S.). — **Transport.** (4 400 words.)

1938 **62. (01**
The Metallurgist, p. 161, Supplt. to the Engineer, October 28.
Radiomicrography. (1 000 words.)

1938 **62. (01 & 669**
The Metallurgist, p. 166, Supplt. to the Engineer, October 28.
GAYLER (M. L. V.). — **Ageing.** (3 800 words.)

1938 **669 .1**
The Metallurgist, p. 171, Supplt. to the Engineer, October 28.
JONES (W. D.). — **The sintering of hard-metal alloys.** (3 200 words.)

1938 **669**
The Metallurgist, p. 175, Supplt. to the Engineer, October 28.
The melting point of silicon. (600 words.)

Engineering. (London.)

1938 **62. (01**
Engineering, No. 3797, October 21, p. 474.
The Siemens **electron microscope.** (1 900 words & fig.)

1938 **38 & 656**
Engineering, No. 3797, October 21, p. 480.
Transport, comfort and speed. (2 300 words.)

1938 **665 .8**
Engineering, No. 3797, October 21, p. 490.
Reconditioning of worn metal surfaces by **oxy-acetylene welding.** (700 words.)

1938 **621 .3**
Engineering, No. 3798, October 28, p. 521.
The suitability of **flame-cut surfaces for weldi** (1 400 words.)

1938 **621**
Engineering, No. 3798, October 28, p. 521.
The **reduction of noise from transformer substatio** (2 100 words & fig.)

1938 **651. (.4**
Engineering, No. 3799, November 4, p. 523.
Mechanical equipment of General Post Office; Mou Pleasant Sorting Office, London. (5 800 words & fi

---

1938 **625 .4 (.4**
Engineering, No. 3799, November 4, p. 531.
The **reconstruction of** Aldgate East **Station.** (2 words & fig.)

1938 **626 .13**
Engineering, No. 3799, November 4, p. 545.
The Conway **shovelling and loading machine for u derground work.** (1 600 words.)

1938 **621**
Engineering, No. 3799, November 4, p. 546.
LLOYD (A. H.) and BENNY (H. H.). — **Cutti fluids** and the machine tool. (2 800 words.)

1938 **624 .52 (.7**
Engineering, No. 3800, November 11, p. 553.
The **erection of a balanced-cantilever bridge** over t Connecticut River. (3 300 words & fig.)

1938 **6**
Engineering, No. 3800, November 11, p. 569.
The **structural problem in air-raid precaution wo** (500 words.)

1938 **656 (∞**
Engineering, No. 3800, November 11, p. 571.
BENTHAM (C.). — **Transporting the grain harves of the world.** (3 000 words.)

1938 **6**
Engineering, No. 3800, November 11, p. 572.
The planning of **shelters and buildings for air-ra precaution.** (1 200 words.)

Engineering News-Record. (New York.)

1938 **6**
Engineering News-Record, No. 16, October 20, p. 4
SLACK (S. B.). — **Bridge curbs and rails.** (700 wor & fig.)

Journal, Institute of Transport. (London.)

1938 **656**

ɔurnal, Institute of Transport, November, p. 7.

SZLUMPER (G. S.). — Presidential address (on ransport in general). (6 800 words.)

1938 **656 (∞)**

ɔurnal, Institute of Transport, November, p. 15.

BENTHAM (C.). — **Transporting the grain harvests f the world.** (20 000 words & tables.)

Journal, Institution of Civil Engineers. (London.)

1938 **721 .2**

ɔurnal, Institution of Civil Engineers, No. 8, October, p. 365.

A theory of **earth-pressures** as applied to retaining alls. (1 700 words & fig.)

1938 **625 .13 (.54)**

ɔurnal, Institution of Civil Engineers, No. 8, October, p. 377.

A pre-cast reinforced-concrete underline railway-idge. (2 800 words.)

1938 **627. (.42)**

ɔurnal, Institution of Civil Engineers, No. 8, October, p. 405.

Dover **train-ferry dock.** (2 500 words.)

1938 **624. (.42)**

ɔurnal, Institution of Civil Engineers, No. 8, October, p. 429.

The **reconstruction** of Chelsea **bridge.** (9 100 words.)

ɔurnal, Permanent Way Institution. (London.)

1938 **625 .1 (06 (.42)**

ɔurnal Permanent Way Institution, August, p. 136.

JANES (H.). — Summer **convention** in Germany. 200 words & fig.)

1938 **625 .144.2 & 625 .172**

ɔurnal Permanent Way Institution, August, p. 157.

CURVES. — **Obtaining and maintaining alignment id superelevation.** (5 300 words & fig.)

1938 **621 .14 & 656 .25**

ɔurnal Permanent Way Institution, August, p. 171.

NOCK (O. S.). — **Modern signalling** in relation to the rmanent way. (3 400 words.)

1938 **669 .1**

ɔurnal Permanent Way Institution, August, p. 178.

WILLIAMS (E. T.). — A visit to a **steel rolling mill.** 600 words.)

1938 **698**

ɔurnal Permanent Way Institution, August, p. 188.

WARREN (F.). — **Paint.** (2 900 words.)

1938 **625 .172**

Journal Permanent Way Institution, August, p. 193.

BRADY (N. E.). — **Weed killing** on railways. (4 700 words.)

London & North Eastern Railway Magazine. (London.)

1938 **656 .261 (.42)**

London & North Eastern Railway Magazine, No. 11, November, p. 618.

MEARA (L.). — **Cartage : Southern Scottish area.** (1 900 words & fig.)

1938 **621 .143.2**

London & North Eastern Railway Magazine, No. 11, November, p. 636.

Reproducing the **wearing qualities of early steel rails** under modern conditions. (3 000 words.)

Mechanical Engineering. (New York.)

1938 **621 .92**

Mechanical Engineering, No. 11, November, p. 807.

INDGE (H. S.). — **Refinement of ground surfaces.** (5 600 words & fig.)

1938 **62. (01 & 669 .1**

Mechanical Engineering, No. 11, November, p. 813.

WESCOTT (B. B.). — **Fatigue and corrosion fatigue of steels.** (8 800 words & fig.)

1938 **621 .6 & 621 .9**

Mechanical Engineering, No. 11, November, p. 823.

HERMAN (K. R.). — Modern **hydraulic units for machine tools.** (2 900 words & fig.)

1938 **621 .335**

Mechanical Engineering, No. 11, November, p. 829.

CAIN (B. S.). — **Electric locomotives.** (3 900 words & fig.)

1938 **62. (01**

Mechanical Engineering, No. 11, November, p. 837.

DONNELL (L. H.). — Suggested new **definitions for proportional limit and yield point.** (1 800 words & fig.)

1938 **691**

Mechanical Engineering, No. 11, November, p. 845.

THORSON (A. W.) and NELLES (J. S.). — Possibilities for **utilization of pulverized-coal ash.** (4 200 words & fig.)

1938 **694**

Mechanical Engineering, No. 11, November, p. 852.

DON BROUSE. — **Exposure tests on plywood.** (3 700 words & fig.)

Modern Transport. (London.)

1938 **625 .4 (.42)**

Modern Transport, No. 1024, October 29, p. 3.

Reconstruction of Aldgate East Station. Realignment of **junctions.** (2 900 words & fig.)

1938 **385 .1 (.44) & 656 (.44)**
Modern Transport, No. 1024, October 29, p. 5.
State aid for French Railways. Dark outlook for road transport. Strict control of charges and services. (2 800 words.)

1938 **656 .212.5 (.42)**
Modern Transport, No. 1024, October 29, p. 6.
Folkestone **Harbour improvements.** (400 words.)

1938 **621 .132.3 (.73) & 621 .132.5 (.73)**
Modern Transport, No. 1024, October 29, p. 7.
Recent Baltimore and Ohio **locomotives. Performance in service.** (1 700 words & fig.)

1938 **621 .43 (.68)**
Modern Transport, No. 1024, October 29, p. 9.
Diesel railcars for South Africa. (300 words & fig.)

1938 **388. (.42)**
Modern Transport, No. 1025, November 5, p. 3.
Fifth year of London Passenger Transport Board. Expenditure rising in greater ratio than receipts. (2 700 words & fig.)

1938 **625 .214 (.81)**
Modern Transport, No. 1025, November 5, p. 7.
Bearings for railway goods wagons. An interesting arrangement. (800 words & fig.)

1938 **656 .23 (.42)**
Modern Transport, No. 1025, November 5, p. 9.
Colour light signalling on the L. N. E. R. Facilities for improved working. (3 000 words & fig.)

1938 **656. (.4)**
Modern Transport, No. 1025, November 5, p. 15.
Co-ordination of rail and road transport. Effect of new **French regulations.** Comparison with **British and German schemes.** (2 400 words.)

1938 **656 .261 (.42)**
Modern Transport, No. 1026, November 12, p. 6.
Scottish **railway cartage.** (1 000 words.)

1938 **656 .222.1 (.42)**
Modern Transport, No. 1026, November 12, p. 7.
Express locomotive work on the L. M. S. R. Running of two **Pacific classes.** (2 400 words & fig.)

1938 **656 .261 (.42)**
Modern Transport, No. 1026, November 12, p. 13.
Railway cartage in Scotland. (1 800 words.)

Proceedings, American Society of Civil Engineers. (New York.)

1938 **55. (.62) & 721 .1 (.62)**
Proc., Amer. Soc. Civil Eng., No. 8, October, p. 1541.
Settlement studies of structures in Egypt. (8 000 words & fig.)

1938 **624**
Proc., Amer. Soc. Civil Eng., No. 8, October, p. 1579.
Beam constants for continuous trusses and beam (2 500 words & fig.)

1938 **624**
Proc., Amer. Soc. Civil Eng., No. 8, October, p. 1587.
Solution of equations in structural analysis by con verging increments. (4 700 words & fig.)

1938 **62**
Proc., Amer. Soc. Civil Eng., No. 8, October, p. 1599.
Reconstruction of a pier in Boston, Massachusett Harbor. (7 700 words & fig.)

1938 **62. (01 & 624**
Proc., Amer. Soc. Civil Eng., No. 8, October, p. 1613.
Mechanical structural analysis by the moment ind cator. (7 500 words & fig.)

Proceedings, Institution of Mechanical Engineer (London.)

1938 **621**
Proceedings, Institution of Mechanical Engineers, v 139, April-May, p. 3.
Cutting tools research : report of sub-committee **carbide tools.** (30 000 words & fig.)

1938 **621**
Proceedings, Institution of Mechanical Engineers, v 139, April-May, p. 83.
SINCLAIR (H.). — Some problems in the **transm** sion of **power by fluid couplings.** (33 000 words & fig

---

1938 **536 & 621 .1**
Proceedings, Institution of Mechanical Engineers, v 139, April-May, p. 355.
GENÈVE (L. F.). — The **transmission of superheat** steam over long distances. (29 000 words & fig.)

1938
Proceedings, Institution of Mechanical Engineers, v 139, April-May, p. 431.
BERRY (W. R.). — Practical problems in **spri design.** (37 000 words & fig.)

1938 **625**
Proceedings, Institution of Mechanical Engineers, v 139, April-May, p. 525.
TAYLOR (Ch. L.). — **Aerial ropeway transpo** (2 500 words & fig.)

Railway Age. (New York.)

1938 **62. (01 (.73) & 625 .143 (.7**
Railway Age, No. 16, October 15, p. 545.
JONES (W. C.). — Fighting **rail corrosion** in t 6.21-mile Moffat **tunnel.** (4 100 words & fig.)

1938 **621 .335 (.73) & 625 .232 (.73)**
ailway Age, No. 16, October 15, p. 559.
Union Pacific **streamliner** is re-equipped. (2 000 words fig.)

1938 **625 .233 (.73)**
ailway Age, No. 16, October 15, p. 561.
Fluorescent lighting for cars. (900 words.)

1938 **656 .253 (.73)**
ailway Age, No. 16, October 15, p. 563.
Track Sentry signal. (700 words & fig.)

1938 **351 .712 (.73) & 651. (.73)**
ailway Age, No. 18, October 29, p. 619.
NYSTROM (M. C.). — Southern Pacific modernizes **urchasing methods.** (1 800 words & fig.)

1938 **625 .1 (06 (.73)**
ailway Age, No. 18, October 29, p. 624.
Bridge and building men hold intensive **meeting.** 10 000 words.)

1938 **625 .24 (06 (.73)**
ailway Age, No. 18, October 29, p. 633.
Preparing cars for commodity loadings. (2 300 words.)

1938 **621 .392 (.73) & 625 .24 (.73)**
ailway Age, No. 19, november 5, p. 654.
Welded box and refrigerator cars. (3 800 words fig.)

1938 **625 .1 (06 (.73)**
ailway Age, No. 19, November 5, p. 659.
Bridge and Building men hold intensive **meeting.** 5 800 words.)

Railway Engineering and Maintenance. (Chicago.)

1938 **656 .284 (.73)**
ailway Engineering and Maintenance, Novemb., p. 684.
Railroads battle record **floods and hurricane** in New ngland. (7 200 words & fig.)

1938 **625 .14**
ailway Engineering and Maintenance, Novemb., p. 689.
LAYNG (F. R.). — **Better track construction** for morrow's traffic. (3 000 words & fig.)

1938 **625 .1 (06 (.73)**
ailway Engineering and Maintenance, Novemb., p. 692.
Bridge and Building men study problems at **annual eeting.** The maintenance of **moveable bridges.** Recent evelopments in field methods in the construction of mber trestles, etc. (40 000 words & fig.)

Railway Gazette. (London.)

1938 **656 .253 (.42)**
ailway Gazette, No. 17, October 21, p. 681.
Resignaling the approach to Victoria, Southern Rail- ay. (1 200 words & fig.)

1938 **621 .9 (.42)**
Railway Gazette, No. 17, October 21, p. 684.
Machining locomotive details at Swindon Works — II. (300 words & fig.)

1938 **625 .245 (.42) & 656 .261 (.42)**
Railway Gazette, No. 17, October 21, p. 692.
JAMES (C. H.). — A brief survey of the efficient organisation evolved by the Southern area of the L. N. E. R. for **transporting abnormal loads.** (1 500 words & fig.)

1938 **656 .1 (.68)**
Railway Gazette, No. 17, October 21, p. 694.
A view of **road transport** in South Africa. (600 words.)

1938 **656 .222.5 (.44)**
Railway Gazette, No. 17, October 21, p. 702.
Reduction in **French train services.** (1 300 words.)

1938 **656 .257 (.945)**
Railway Gazette, No. 18, October 28, p. 722.
Double-wire signalling, Victorian Government Railways. (1 500 words & fig.)

1938 **621 .134.2 & 621 .9**
Railway Gazette, No. 18, October 28, p. 725.
A power-operated pinch bar. A useful device for **locomotive valve setting.** (400 words & fig.)

1938 **625 .164 (.44)**
Railway Gazette, No. 18, October 28, p. 727.
Avalanche protection in France. (200 words & fig.)

1938 **656 .212.7 (.493)**
Railway Gazette, No. 18, October 28, p. 729.
Parcels handling on Belgian National Railways. (600 words & fig.)

1938 **385 .587 (.42) & 621 .138.5 (.42)**
Railway Gazette, No. 18, October 28, p. 730.
Locomotive six-day schedule and progress boards. (700 words & fig.)

1938 **656 .283 (.42)**
Railway Gazette, No. 18, October 28, p. 739.
Ministry of Transport **accident report.** (4 500 words.)

1938 **625 .122 (.73)**
Railway Gazette, No. 19, November 4, p. 779.
Concrete track support. (300 words & fig.)

1938 **656. (.94)**
Railway Gazette, No. 19, November 4, p. 780.
ARTHURTON (A. W.). — Australian **air services and developments.** (1 600 words & 1 map.)

1938 **656 .25 (.42)**
Railway Gazette, No. 19, November 4, p. 783.
Resignalling on Chelmsford and Southern lines. L. N. E. R. (2 600 words & fig.)

1938 **656** .25 (.492)
Railway Gazette, No. 20, November 11, p. 819.
Signalling on the Netherlands Railways. Alterations **necessitated by electrification.** (1 000 words.)

1938 **625** .154 (093
Railway Gazette, No. 20, November 11, p. 820.
Early **turntables.** (2 400 words & fig.)

1938 **621** .133.7 (.54) & **725** .33 (.54)
Railway Gazette, No. 20, November 11, p. 823.
Supplying water at branch line terminals. (800 words & fig.)

1938 **625** .216 (.43)
Railway Gazette, No. 20, November 11, p. 825.
Automatic couplers (Lübeck - Büchen double - deck trains). (300 words & fig.)

1938 **656** .254 (.44)
Railway Gazette, No. 20, November 11, p. 826.
Inductive A. T. C. apparatus in France. (700 words & fig.)

1938 **621** .138.5 (.42) & **625** .9 (.42)
Railway Gazette, No. 20, November 11, p. 827.
Machining locomotive details at Swindon Works — III. (400 words & fig.)

1938 **656** .254 (.73) & **656** .283 (.73)
Railway Gazette, No. 20, November 11, p. 835.
Accident on line equipped with A. T. C. (1 200 words.)

1938 **625** .251
Diesel Railway Traction, p. 752, supplt. to the Railway Gazette, October 28.
The **braking of high-speed trains,** with particular reference to **brake shoe characteristics.** (2 000 words & fig.)

1938 **621** .43 (.89)
Diesel Railway Traction, p. 754, supplt. to the Railway Gazette, October 28.
Introduction of **diesel traction** in Uruguay. (1 900 words & fig.)

1938 **621** .43 (.498) & **656** .222.1 (.498)
Diesel Railway Traction, p. 757, supplt. to the Railway Gazette, October 28.
Roumanian **main line locomotive performance.** (600 words.)

1938 **621** .43 (.82)
Diesel Railway Traction, p. 758, supplt. to the Railway Gazette, October 28.
Articulated trains for Argentina. (2 600 words & fig.)

1938 **621** .43 (.44) & **621** .8
Diesel Railway Traction, p. 762, supplt. to the Railway Gazette, October 28.
Procédés Minerva **multi-speed gearbox.** (400 words & fig.)

1938 **621** .43 (.
Diesel Railway Traction, p. 763, supplt. to the Railw Gazette, October 28.
The Leyland **railcar oil engine.** (1 500 words & f

1938 **621** .33 (093 (.
Electric Railway Traction, p. 844, supplt. to the Railw Gazette, November 11.
The Chicago, North Shore **electric line.** (1 200 wo & 1 map.)

1938 **621** .33 (.9
Electric Railway Traction, p. 845, supplt. to the Railw Gazette, November 11.
The Wellington **electrified lines** in New Zeala (2 200 words & fig.)

1938 **621** .33 (.
Electric Railway Traction, p. 848, supplt. to the Railw Gazette, November 11.
Conversion of Paris **outer suburban line.** (2 400 wo & fig.)

Railway Magazine. (London.)

1938 **656** .222.5 (.
Railway Magazine, No. 497, November, p. 319.
The **winter train services,** 1938-9. (2 000 words.)

1938 **385.** (093 (.
Railway Magazine, No. 497, November, p. 335.
LEE (Ch. E.). — **The London & Birmingham Railw** — II. (2 100 words & fig.)

1938 **656** .222.5 (
Railway Magazine, No. 497, November, p. 361.
European express trains in the summer of 1938 — (4 200 words & tables.)

Railway Signaling. (Chicago.)

1938 **656** .253 (.73) & **656** .256.3 (.
Railway Signaling, November, p. 627.
Signaling for higher train speeds. (3 300 words & f

1938 **656** .284 (.
Railway Signaling, November, p. 631.
Boston & Maine **damaged by floods.** (900 words fig.)

1938 **625** .258 (.73) & **656** .212.5 (.
Railway Signaling, November, p. 633.
Pennsylvania installs **retarders in yard** at Harrisb Pa. (3 200 words & fig.)

1938 **625** .162 (.73) & **656** .259 (.
Railway Signaling, November, p. 638.
Short-arm crossing gates on the Alton. (1 500 w & fig.)

1938 **656 .258 (.73)**
ailway Signaling, November, p. 640.
Signaling and interlocking on the Indianapolis Union ailway. (1 800 words & fig.)

outh African Railways and Harbours Magazine. (Johannesburg.)

1938 **656 .224 (.68)**
outh African Railways & Harbours Magazine, October, p. 1275.
Conveying the mails. How the railways play their art. (2 200 words & fig.)

1938 **385 .517 (.68)**
outh African Railways & Harbours Magazine, October, p. 1283.
South African Railways and Harbours Institute and loy Park, Durban. (3 500 words & fig.)

1938 **625 .13 (.68)**
outh African Railways & Harbours Magazine, October, p. 1299.
Unique **flat-roofed tunnel** on the Glencoe-Uithoek ection. (800 words & fig.)

The Locomotive. (London.)

1938 **621 .133.7**
he Locomotive, No. 555, November 15, p. 336.
Feedwater treatment. (1 000 words.)

1938 **621 .133.4**
he Locomotive, No. 555, November 15, p. 342.
Steel fireboxes. (1 100 words.)

1938 **625 .2**
he Locomotive, No. 555, November 15, p. 343.
SANDERS (L. I.). — **Carriage and wagon design and onstruction.** (1 200 words.)

1938 **621 .43 (.81)**
he Locomotive, No. 555, November 15, p. 355.
Novel **railcars** for Brazil. (1 200 words & fig.)

1938 **621 .132.5 (.73)**
he Locomotive, No. 555, November 15, p. 359.
4-8-4 type locomotives for the Atlantic Coast Line. 400 words & fig.)

1938 **62. (01 & 621 .135.2**
he Locomotive, No. 555, November 15, p. 362.
The fatigue strength of machined tyre steels. (2 000 vords.)

The Oil Engine. (London.)

1938 **621 .43 (08**
he Oil Engine, No. 67, Mid November, p. 202.
A graph to facilitate **engine calculations.** (1 300 words & 1 graph.)

In Italian.

La tecnica professionale. (Firenze.)

1938 **621 .33 (.45)**
La tecnica professionale, novembre, p. 241.
Lo sviluppo ed i risultati della **trazione elettrica** agli effeti dell' autarchia. (3 900 parole.)

1938 **621 .13 (.45)**
La tecnica professionale, novembre, p. 245.
I progressi della **trazione a vapore** agli effetti dell' autarchia. (2 800 parole.)

Rivista tecnica delle ferrovie italiane. (Roma.)

1938 **725 .31 (.45)**
Rivista tecnica delle ferrovie ital., 15 ottobre, p. 203.
MORGANA. — Le costruzioni provvisorie nella **stazione** di Roma-Ostiense. (2 200 parole & fig.)

1938 **691**
Rivista tecnica delle ferrovie ital., 15 ottobre, p. 217.
PERFETTI (A.). — La pomice per la costruzione dei **calcestruzzi leggeri.** (3 700 parole & fig.)

1938 **625 .143.4**
Rivista tecnica delle ferrovie ital., 15 ottobre, p. 233.
ROBERT (G.). — Ricerche sperimentali sulla resistenza d'attrito nelle **giunzioni delle rotaie** e sulle sollecitazioni nelle chiavarde. (2 700 parole & fig.)

In Dutch.

De Ingenieur. (Den Haag.)

1938 **62. (01 & 691**
De Ingenieur, N^r^ 44, 4 November, p. Bt. 73.
Toepassing van hooge spanningen bij **gewapend-betonconstructies.** (5 300 woorden.)

Spoor- en Tramwegen. (Utrecht.)

1938 **656 .222.5 (.492)**
Spoor- en Tramwegen, N^r^ 22, 25 October, p. 549.
Regeling van het **personenvervoer.** (3 800 woorden.)

1938 **656 .225 (.439)**
Spoor- en Tramwegen, N^r^ 22, 25 october, p. 553.
Fruittransport uit Hongarije in koellaadkisten. (600 woorden & fig.)

1938 **623 (.4)**
Spoor- en Tramwegen, N^r^ 22, 25 October, p. 554; N^r^ 23, 8 November, p. 575.
ERKENS (P. J.). — De **spoorwegen** in den Wereldoorlog. (4 000 woorden & fig.)

1938 **621 .13 (09 (.492)**

Spoor- en Tramwegen, Nr 22, 25 October, p. 556; Nr 23, 8 November, p. 578.

LABRIJN (P.). — De **Staatsspoorlocomotieven** van vóór 1880. (900 woorden & fig.)

1938 **313 : 656 .2 (.92)**

Spoor- en Tramwegen, Nr 23, 8 November, p. 571.

JANSEN (L.). — De organisatie der **Vervoersstatistieken** en der Vervoersbewaking bij de Staatsspoorwegen in Nederlandsch-Indië. (3 200 woorden & fig.)

In Portuguese.

Gazeta dos caminhos de ferro. (Lisboa.)

1938 **385**

Gazeta dos caminhos de ferro, N° 1220, 16 de outubro, p. 461.

de SOUZA (P.). — Os **nossos caminhos de ferro dificuldades** da hora presente. (1 900 palavras.)

1938 **385 (.469)**

Gazeta dos caminhos de ferro, N° 1220, 16 de outubro, p. 468; N° 1221, 1 de novembro, p. 490.

O **estatuto jurídico** dos caminhos de ferro. Revisão do Decreto de 1864. (14 500 palavras.)

1938 **656 .2**

Gazeta dos caminhos de ferro, N° 1222, 16 de novemb p. 506.

A **sinalização das passagens de nível** e a « Socied das Nações ». (500 palavras.)

Revista das Estradas de ferro. (Rio de Janeir

1938 **6**

Revista das Estradas de ferro, N° 318, 15 de outub p. 2125; N° 319, 30 de outubro, p. 2145.

Coordenação de transportes. (5 400 palavras.) (Co tínúa.)

Tècnica. (Lisboa.)

1938 **721**

Técnica, novembro, p. 7.

PINTO DA FRANÇA (H.). — **Cálculo de um res vatório elevado de betão armado.** (4 000 palavras & fi

---

1938 **624 .2 & 6**

Técnica, novembro, p. 26.

VASCO COSTA (F.). — Nomograma para a det minação da posição da linha neutra nas **vigas em** de betão armado. (300 palavras & fig.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(FEBRUARY 1939)

[016. 385. (02]

I. — BOOKS.

In French.

1938 669. (02
AZAUD (R.).
Agenda Dunod, 1939. — Métallurgie.
Paris (VIe), Dunod, 92, rue Bonaparte. 1 volume, 328 ges et 56 figures. (Prix : 25 fr. français.)

1938 69. (02
DUDERC (J.).
Agenda Dunod, 1939. — Bâtiment.
Paris (VIe), Dunod, 92, rue Bonaparte. 1 volume, 364 ges, 72 figures et tableaux. (Prix : 25 fr. français.)

1938 691. (02
ORESTIER (V.).
Agenda Dunod, 1939. — Béton armé.
Paris (VIe), Dunod, 92, rue Bonaparte. 1 volume, 324 ges, 230 figures et tableaux. (Prix : 25 fr. français.)

1938 385. (02
LACE (P.).
Agenda Dunod, 1939. — Chemins de fer.
Paris (VIe), Dunod, 92, rue Bonaparte. 1 volume, 396 ges, 94 figures et 1 planche. (Prix : 25 fr. français.)

In German.

1938 621 .135.4 & 625 .215
ECKER (P.).
Von der Spurführung bei Gleisfahrzeugen in Bögen.
Köln-Lindenthal, Ernst Stauf. 1 Band. (Preis : R. M.)

1938 62. (01 & 721 .9
ITTNER (E.).
Momententafeln und Einflussflächen für kreuzweise wehrte Eisenbeton-Platten.
Wien, Julius Springer. 1 Band, 86 Seiten, 81 Zahlentafeln und 16 Abbildungen. (Preis : 9.60 R. M.)

1938 659. (.43)
Deutscher Reichsbahn-Kalender 1939.
Leipzig, Konkordia-Verlag Reinhold Rudolph. (Preis : 5 R. M.)

1938 621 .43
Dieselmaschinen VII.
Berlin, VDI-Verlag. 1 Band, 155 Seiten und 276 Abbildungen. (Preis : 5.40 R. M.)

1938 621 .135.3 & 625 .213
GROSS (S.) und LEHR (E.).
Die Federn.
Berlin, V-D-I-Verlag. 1 Band, 136 Seiten, 52 Zahlentafeln und 215 Abbildungen. (Preis : 25 R. M.)

1937 656 .23 (.43)
VOGT.
Grundlagen der heutigen Verkehrs- und Tarifpolitik in Deutschland.
Leipzig, Verkehrswissenschaftliche Lehrmittel G.m.b.H. 1 Band, 99 Seiten. (Preis : 4.20 R. M.)

1938 656. (.43)
KOENIGS (G.).
Die neuen Gedanken in der deutschen Verkehrspolitik.
Leipzig, Felix Meiner. 1 Heft, 27 Seiten.

1938 621 .335 (.43)
LOTTER (G.).
Die elektrischen Lokomotiven der Deutschen Reichsbahn.
Darmstadt, Arbeitsgemeinschaft Deutsches Lokomotivbildarchiv, und Leipzig, Verkehrswissenschaftliche Lehrmittelgesellschaft. 1 Band. (Preis : 2.25 R. M.)

1938 656 .235
SCHMIDT (W.).
Leitgedanken der Eisenbahngüter Tarifpolitik.
Leipzig, Felix Meiner. 1 Band, 24 Seiten.

1938 669
von ZEERLEDER (A.).
Technologie des Aluminiums und seiner Leichtlegierungen.
Leipzig, Akademische Verlagsgesellschaft. 1 Band, 449 Seiten, 59 Zahlentafeln und 313 Abbildungen. (Preis : 20 R. M.)

In English.

1938 385. (08 (.942)
Annual report of the South Australian Railways Commissioner for the year 1937-38.
Adelaïde : Published by authority. 35 pages & 1 map.

(1) The numbers placed over the title of each book are those of the decimal classification ' proposed by the Railway Congress onjointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to ailway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, . 1509).

1938 621 .138.5 (.54)
BAILEY (L. G.).
Indian Railway Board. Technical paper n° 304. Description of the method of **locomotive repair** as carried out in the Khargpur workshops of the Bengal Nagpur Railway.
Delhi : The Manager of Publications. (Price : 1 sh. 3 d.)

1938 385. (.73) & 656 .2 (.73)
BEEBE (L.).
High iron. A book of trains.
New York : D. Appleton-Century Company. 225 pp., 11 in. × 8 in. Bound in cloth. (Price : $ 5.)

1938 536 & 621
BERRY (C. W.), SVENSON (C. L.) and MOORE (H. C.).
Problems in **engineering thermodynamics** and **heat engineering.** Second edition
London : Chapman and Hall, Ltd. (Price : 6 sh. net.)

1938 385. (092
BRUNEL NOBLE (C.).
The Brunels, father and son.
London : Cobden-Sanderson, 1, Montague Street. (Price: 15 sh.)

1938 656 .222.1 (.42)
BULLIED (O. V.), M. I. Mech. E., Chief Mechanical Engineer, Southern Railway (England).
Modern long-distance high-speed trains in Great Britain. (Paper read before the « Société des Ingénieurs Civils de France », Paris, on the 27th May 1938.) — A pamphlet (9 3/4 × 7 1/4 inches) of 26 pages, illustrated. Published by the « Société des Ingénieurs Civils de France », British Section.

1938 625 .14 (01
GELSON (W. E.).
Indian Railway Board. Technical Paper n° 305. **Primary stresses in railway tracks.**
Delhi : The Manager of Publications. (Price : 9 d.)

1938 385. (08 (.06)
Gold Coast Railway and Takoradi Harbour. **Administration Report for the year 1937-38.**
Accra : Government Printing Department. 113 pp. Illustrated.

1938 621 .392 & 725 .9
HALE (R. S.).
Welded steel construction. A manual for the design, detailing, fabrication and erection of welded steel buildings, bridges and other steel structures.
New York : Pitman Publishing Corporation. 170 pp. (Price : $ 3.)

1938 65. (.73)
Industrial price policies.
New York : Public Affairs Committee Incorp., 8, West 40th Street. 32 pp. Illustrated. (Price : 10 cents.)

1938 614 .7 (02 (.73)
Manual of ordinances and requirements in the interest of **air pollution, smoke elimination, fuel combustion.**
Chicago : The Smoke Prevention Association, City Hall Square building. (Price : 50 cents.)

1938
MOYER (J. A.) and FITTZ (R. U.).
Air conditioning. (New second edition.)
New York : McGraw-Hill Book Co. 455 pp. (Pr
$ 4.)

1938 62.
ROARK (R. J.).
Formulas for stress and strain.
New York : McGraw-Hill Book Co. 326 pp. (Pr
$ 3.)

1938 621 .392 & 62
SANYAL (A.).
The Association of Engineering and Shipbuil
Draughtsmen. — **Design of a welded plate girder bri**
London : The Draughtsman Publishing Comp
Limited. (Price : 2 sh. net.)

1938 669 &
Structural Aluminum.
Pittsburgh, Pa. : Aluminum Company of Ame
5 1/2 in. × 8 in.; imitation-lather bound. (Pr
$ 1.25.)

1938 385.
The Model Railroader Cyclopedia.
Wauwatosa Wis. : The Modelmaker Corp. 111
and 20 plates (10 in. by 7 in.). Bound in paper : $ 1
cloth : $ 2.00.

1938 385. (091 (
THE RAILWAY GAZETTE.
Annual Overseas Railways Number (November 1938) containing a series of articles on most of leading railway systems in Canada, Africa, Austra New Zealand, India, Ceylon, Argentina, Brazil and ot places. A volume (10 × 8 3/4 inches), of 140 pa profusely illustrated.
Published by « The Railway Gazette », London, Tothill Street, Westminster, S.W. 1. (Price : 2 sh.)

1938 621
von BONGART (B. J.) .
Diesel engines.
London : Chapman and Hall, Limited. (Price : 21 net.)

1938 385 .2 (.73) & 656. (.
WATERS (R. H.).
Competition in transportation, a dissertation.
Philadelphia : University of Pennsylvania. 204 (9 1/4 in. × 6 1/4 in.). Bound in paper.

In Spanish.

1938 385. (09 (.
Los ferrocarriles particulares en la Argentina.
Buenos Aires, Dirección de Publicidad Ferrovia Florida 753. 1 folleto de 46 páginas y figuras.

[016. 385. (05]

II. — PERIODICALS.

In French.

Annales des Ponts et Chaussées (Paris).

1938 **62**

Annales des ponts et chaussées, août, p. 251; septembre, p. 365.

PASCAL (R.). — La **méthode expérimentale** au bureau d'études. (12 100 mots, tableaux & fig.)

Bulletin de la Société des ingénieurs civils de France. (Paris.)

1938 **621 .13**

Bull. de la Soc. des ing. civ. de France, mai-juin, p. 441.

da COSTA COUVREUR (R.). — La **locomotive classique** devant les systèmes de traction modernes. (8 400 mots.)

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

1938 **625 .232 (.73) & 656 .222.1 (.73)**

Bull. de l'Assoc. française des amis des chem. de fer, octobre, p. 207.

CAIRE (D.). — Le **confort d'un grand rapide de nuit** américain. Le nouveau « Twentieth Century » du New York Central Railroad. (3 500 mots & fig.)

1938 **385. (09 (.64)**

Bull. de l'Assoc. française des amis des chem. de fer, octobre, p. 218.

Le **développement des chemins de fer** à voie normale au Maroc. (2 800 mots & fig.)

1938 **621 .132.3 (.73) & 625 .232 (.73)**

Bull. de l'Assoc. française des amis des chem. de fer, novembre, p. 225.

CAIRE (D.). — Le **nouveau matériel** du « Hiawatha ». Le grand rapide de jour du Chicago-Milwaukee-Saint-Paul and Pacific. (3 000 mots & fig.)

1938 **621 .131.3 (.43)**

Bull. de l'Assoc. française des amis des chem. de fer, novembre, p. 235.

Essais de locomotives allemandes à simple expansion, timbrées à 20 atmosphères. (4 300 mots & fig.)

Bulletin de l'Union internationale des chemins de fer. (Paris.)

1938 **385 .113 (.494)**

Bull. de l'Union intern. des ch. de fer, octobre, p. 294.

Les **Chemins de fer fédéraux suisses** en 1937. (5 600 mots.)

1938 **656 .1 (.44)**

Bull. de l'Union intern. des ch. de fer, octobre, p. 300.

Le **réseau routier français.** (7 000 mots.)

1938 **621 .132.8 (.44)**

Bull. de l'Union intern. des ch. de fer, octobre, p. 310.

Une **locomotive à chaudière Velox.** (900 mots.)

Bulletin de l'Union internationale de tramways, de chemins de fer d'intérêt local et de transports publics automobiles. (Bruxelles.)

1938 **385 .15 (.43)**

Bull. de l'Union Intern. de Tramw., de chem. de fer d'int. loc. et de Transp. publ. automob., novembre, p. 29.

WEHRSPAN. — Die **Bedeutung der privaten Eisenbahnen** in Deutschland. (4 700 mots.)

1938 **621 .43 (.493)**

Bull. de l'Union Intern. de Tramw., de chem. de fer d'int. loc. et de Transp. publ. automob., novembre, p. 36.

ALLARD (A.). — Les **automotrices** de la Société Nationale des Chemins de fer Vicinaux (Belgique). (9 500 mots & fig.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1938 **385 .62 & 385 .63**

Bull. des transp. intern. par ch. de fer, novembre, p. 570.

de NANASSY. — Comment devraient être remaniées les **conventions internationales** concernant les transports par chemins de fer (CIV et CIM). (4 700 mots.)

1938 **385 .63 & 656 .227**

Bull. des transp. intern. par ch. de fer, novembre, p. 583.

NOE (G.). — Le nouveau règlement international concernant le **transport des matières dangereuses** (Annexe I à la C. I. M.), entré en vigueur le 1er octobre 1938. (4 000 mots.)

1938 **313 .385 (.3)**

Bull. des transp. intern. par ch. de fer, novembre, p. 605.

Les **chemins de fer du monde.** (300 mots & tableaux.)

1938 **313 .385 (.481)**

Bull. des transp. intern. par ch. de fer, novembre, p. 623.

Résultats d'exploitation des Chemins de fer de l'Etat norvégien durant l'exercice 1936-37. (400 mots.)

Bulletin technique de la Suisse romande. (Vevey.)

1938 **625 .215**

Bull. techn. de la Suisse romande, 19 novembre, p. 325.

LIECHTY (R.). — Etude sur la **tenue en voie** de véhicules de chemins de fer. (1 500 mots & fig.)

1938 **625 .215**

Bull. techn. de la Suisse romande, 3 décembre, p. 337.

LIECHTY (R.). — Etude sur la **tenue en voie** des véhicules de chemins de fer. (1 300 mots & fig.)

1938 **625 .1 (.494)**

Bull. techn. de la Suisse romande, 3 décembre, p. 343.

Les **travaux de déviation de la ligne Berne-Wilerfeld** des Chemins de fer Fédéraux. (1 000 mots & fig.)

Bulletin technique de l'Union professionnelle des Inspecteurs techniques et des chefs de section des chemins de fer belges. (Bruxelles.)

1938 **625 .143.5**

Bull. techn. de l'Union profess. des Inspecteurs techniques et des Chefs de section des ch. de fer belges, décembre, p. 8.

GILLARDIN (A.). — Contribution à l'étude du phénomène de **serpentage de la voie.** (3 200 mots & fig.)

1938 **625 .172**

Bull. techn. de l'Union profess. des Inspecteurs techniques et des Chefs de section des ch. de fer belges, p. 22.

BRENARD (C.). — **Méthode économique de rectification de la jauge** dans une voie en rails de 18 m. en 50 kgr. le m. cour. posés sur traverses en bois dur par l'intermédiaire de plaques à crochets. (1 400 mots, 2 tableaux & fig.)

Economie et technique des transports (Lucerne).

1938 **621 .43 (.82)**

Economie et technique des transports, novembre-décembre p. 130.

KOFFMANN (J. L.). — New **light-weight railcars** for Argentina. (2 200 words & fig.)

1938 **625 .2 (.494)**

Economie et technique des transports, novembre-décembre, p. 134.

HUG (Ad. M.). — **Nouveau matériel roulant léger** des chemins de fer en Suisse. (1 700 mots & fig.)

Electricité. (Paris.)

1938 **625 .4 (.44)**

Electricité, novembre, p. 365.

BOIS (A.). — **Cabine d'ascenseur automatique** de la station Havre-Caumartin du **Métropolitain** de Paris. (4 000 mots & fig.)

1938 **621 .335**

Electricité, décembre, p. 403.

TROLLUX (J.). — L'évolution actuelle dans la conception des **automotrices électriques.** (3 300 mots & fig.)

Génie civil. (Paris.)

1938 **624 .63 (.4**

Génie civil, n° 2937, 26 novembre, p. 441.

PEYRONNET. — Le nouveau **pont de Bry,** sur Marne. Pont Cantilever en béton armé de 67 mètres portée. (5 200 mots & fig.)

1938 **62. (01 & 6**

Génie civil, n° 2937, 26 novembre. p. 446; n° 2938, 3 cembre, p. 469.

GUILLET (L.). — Le **durcissement structural** produits métallurgiques. (9 000 mots & fig.)

1938 **656 (.4**

Génie civil, n° 2937, 26 novembre, p. 454.

MESTRE (A.). — **Coordination** et transports fer viaires. (900 mots.)

1938 **621 .331 (.**

Génie civil, n° 2938, 3 décembre, p. 461.

DUMAS (J.). — Les **sous-stations** de traction é trique de la ligne de chemin de fer de Paris au Mans leur commande centralisée. (8 200 mots & fig.)

1938 **62. (01 & 669**

Génie civil, n° 2938, 3 décembre, p. 475.

MERKLEN (J. & VALLOT (E.). — La nécessité **essais de fragilité** en vue de l'emploi des aciers au c bone. (2 000 mots.)

1938 **621 .**

Génie civil, n° 2938, 3 décembre, p. 477.

HERRMANN (E.). — La **soudure électrique** des t minces d'aluminium. (1 200 mots.)

1938 **621 .43 (.**

Génie civil, n° 2939, 10 décembre, p. 499.

Locomotive Diesel à transmission hydraulique, s tème Voith-Schwartzkopff. (1 000 mots & fig.)

1938 **656 .**

Génie civil, n° 2940, 17 décembre, p. 519.

La **répétition des signaux** sur les locomotives à l'a du « crocodile contrôlé ». (2 200 mots & fig.)

1938 **691.**

Génie civil, n° 2940, 17 décembre, p. 521.

Journées internationales de la **lutte contre la co sion.** (Paris, 21-23 novembre 1938.) (3 400 mots.)

1938 **669 &**

Génie civil, n° 2940, 17 décembre, p. 525.

PORTEVIN (A.). — Les problèmes posés par la l **contre la corrosion.** (1 900 mots.)

La Technique moderne. (Paris.)

1938 **621 .43 & 621 .8**

a Technique moderne, n° 23, 1er décembre, p. 846.

Transmission électro-mécanique pour véhicules à mo-eurs à combustion. (500 mots & fig.)

1938 **621 .93**

a Technique moderne, n° 24, 15 décembre, p. 867.

FREUND (H.). — La **coupe rationnelle des métaux.** 2 600 mots & fig.)

1938 **621 .335 (.494)**

a Technique moderne, n° 24, 15 décembre, p. 870.

Automotrices électriques rapides des Chemins de fer 'édéraux. (800 mots & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1938 **385. (09 (.61)**

'Ind. des voies ferrées et des transp. autom., octobre, p. 271.

VENTE. — Les **voies ferrées en Tunisie.** (11 000 mots fig.)

L'Organisation scientifique. (Bruxelles.)

1938 **385 .587**

'Organisation scientifique, novembre, p. 245.

BOSSELER (N.). — Les **graphiques** et tableaux de lanning. (3 500 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1938 **624 .62 (.44)**

'Ossature métallique, décembre, p. 502.

Le nouveau **pont** sur la Saône à Bragny. (900 mots fig.)

1938 **725 .33 (.493)**

'Ossature métallique, décembre, p. 513.

LENFANT (H.). — La nouvelle **remise à locomotives** e Bruxelles-Forest-Midi. (6 300 mots & fig.)

1938 **62. (01 & 691**

'Ossature métallique, décembre, p. 525.

JEUNEHOMME (W.). — Les recherches anglaises ans le domaine de la **corrosion.** (6 500 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1938 **656 (.44)**

evue générale des chemins de fer, décembre, p. 265.

BOREL. — La **coordination** des transports de voya-eurs. (2 500 mots.)

1938 **621 .138.1 (.44) & 725 .33 (.44)**

evue générale des chemins de fer, décembre, p. 273.

SCHÜRR & VIGIER. — Le **dépôt** de La Chapelle. 4 500 mots & fig.)

1938 **656 .213 (.44)**

Revue générale des chemins de fer, décembre, p. 289.

GOLLÉTY. — Les **travaux du port** de Marseille. (2 200 mots & fig.)

1938 **625 .154 (.44)**

Revue générale des chemins de fer, décembre, p. 298.

MARJOLLET. — **Chariot-satellite de plaque tournante** pour le virage de wagons de grand empattement. (1 100 mots & fig.)

Revue universelle des Mines. (Liége.)

1938 **62. (01**

Revue universelle des mines, décembre, p. 835.

LELOUP (L.). — Diagrammes pour la détermination exacte des **tensions** dues au choc longitudinal dans une barre prismatique. (900 mots & fig.)

Traction nouvelle. (Paris.)

1938 **621 .43**

Traction nouvelle, novembre-décembre, p. 174.

MARTIN (C.). — **Dépôts modernes d'autorails.** (5 600 mots & fig.)

1938 **621 .43 (.44)**

Traction nouvelle, novembre-décembre, p. 184.

REDSLOB (A.). — Les **Bugatti « triples »** du centre de Strasbourg. (1 000 mots & fig.)

1938 **656 .224 (.44) & 621 .43 (.44)**

Traction nouvelle, novembre-décembre, p. 186.

VALLET (P.). — Le **service d'hiver** 1938-1939, des autorails. (3 000 mots & fig.)

1938 **621 .43 (.44)**

Traction nouvelle, novembre-décembre, p. 190.

Une visite à l'**Ecole de conducteurs d'autorails** de Versailles Matelots. (600 mots & fig.)

1938 **621 .43 (.438)**

Traction nouvelle, novembre-décembre, p. 192.

WAGNER. — Les **automotrices** des Chemins de fer de l'Etat polonais. (2 000 mots & fig.)

1938 **621 .43 (.44)**

Traction nouvelle, novembre-décembre, p. 204.

TOURNEUR (Ch.). — Les **moteurs Diesel** français pour autorails de grande puissance. (2 600 mots & fig.)

In German.

Der Bahn-Ingenieur. (Berlin).

1938 **625 .17**

Der Bahn-Ingenieur, Nr. 46. 13. November. S. 794.

SCHRÖDER. — **Gleis- und Weichenunterhaltung.** (3 200 Wörter & 1 Tabelle.)

1938 **62.** (01

Der Bahn-Ingenieur, No. 46, 13. November, S. 798.

MÜLLER (W.). — Die **zerstörungsfreie Werkstoss-prüfung** nach dem Magnetpulververfahren. (2 300 Wörter & Abb.)

1938 **625** .162

Der Bahn-Ingenieur, Nr. 46, 13. November, S. 803.

BASTGEN. — Neue Bauweise für **Wegübergänge** in Schienenhöhe. (800 Wörter & Abb.)

Die Lokomotive. (Wien.)

1938 **656** .2 (.43)

Die Lokomotive, November-Dezember, S. 179.

Die **Verkehrsentwicklung** der Reichsbahn. (1 800 Wörter.)

1938 **621** .13 (09

Die Lokomotive, November-Dezember, S. 181.

Die geschichtliche **Entwicklung der Dampflokomotive.** (5 000 Wörter & Abb.)

1938 **621** .132.8 (.43)

Die Lokomotive, November-Dezember, S. 194.

Die **Lokomotiven** der Eisenbahn Wien-Aspang und der Schneebergbahn. (2 300 Wörter & Abb.)

1938 **385.** (09 (.44)

Die Lokomotive, November-Dezember, S. 198.

Französischer **Eisenbahnverkehr.** (2 300 Wörter.)

Die Reichsbahn. (Berlin.)

1938 **623.** (.43)

Die Reichsbahn, Heft 47, 23. November, S. 1139.

Die **Reichsbahn** im Sudetenland. (2 600 Wörter & Abb.)

1938 **385.** (09.3 (.43)

Die Reichsbahn, Heft 48, 30. November, S. 1160.

KRAIGER. — **100 Jahre Eisenbahn** Braunschweig-Wolfenbüttel. (2 500 Wörter & Abb.)

1938 **656** .235.5 (.43)

Die Reichsbahn, Heft 48, 30. November, S. 1164.

PLATZ. — Die Förderung der Fischwirtschaft durch die **Fischtarife** der Reichsbahn. (8 500 Wörter.)

1938 **625** .19 (.43)

Die Reichsbahn, Heft 49, 7. Dezember, S. 1188.

BINDER (H.). — Der **Hilfsgerätezug** beim Bahnbetriebswerk Saarbrücken Hbf. (1 700 Wörter & Abb.)

1938 **656** .1 (.43)

Die Reichsbahn, Heft 50, 14. Dezember, S. 2003.

REINHARDT. — 3 000 Kilometer **Reichsautobahnen.** (3 000 Wörter & Abb.)

1938 **385.** (39.3 (.4

Die Reichsbahn, Heft 51, 21. Dezember, S. 2030.

HERETH. — Zur **Hundertjahrfeier** der ersten wes deutschen Eisenbahn Düsseldorf-Erkrath. (3 500 Wört & Abb.)

Elektrische Bahnen. (Berlin.)

1938 **621** .3

Elektrische Bahnen, Heft 10, Oktober, S. 229.

NADERER (G.). — Verwendung und Bewährung v Vollkernisolatoren bei **Fahr- und Fernleitungen.** (3 6 Wörter & Abb.)

1938 **621** .3

Elektrische Bahnen, Heft 10, Oktober, S. 235.

SÜBERKRÜB. — **Nebelüberschlagsichere Isolatore** (2 600 Wörter, 6 Tafeln & Abb.)

1938 **621** .3

Elektrische Bahnen, Heft 10, Oktober, S. 242.

REINICKE. — Neuere Bauarten von **eisensparende Masten.** (1 700 Wörter & Abb.)

1938 **621** .3

Elektrische Bahnen, Heft 10, Oktober, S. 247.

ESCHERICH (G.). — Beobachtungen an **Nebel i elektrischen Wechselfeld.** (4 500 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1938 **621** .13 (.43

Glasers Annalen, Heft 20, 15. Oktober, S. 283.

BARTELS. — Der **maschinentechnische Betriebsdiens** der Reichsbahn unter besonderer Berücksichtigung de Zugförderung mit Dampflokomotiven. (12 700 Wörter

---

1938 **625** .2 (.43

Glasers Annalen, Heft 21, 1. November, S. 295.

KAYSER (W.). — Der **Betriebswagendienst.** (9 30 Wörter.)

1938 **621** .

Glasers Annalen, Heft 21, 1. November, S. 304.

WIESSNER (P.). — Verbesserung von **Riementriebe** durch Verwendung von Kraftringen. (1 100 Wörter Abb.)

1938 **385.** (09 .3 (.43

Glasers Annalen, Heft 22, 15. November, S. 307.

METZELTIN. — Erinnerungen an die Anfänge de **Braunschweigischen Eisenbahn.** (2 400 Wörter & Abb.

1938 **621** .139 (.43) & **625** .27 (.43

Glasers Annalen, Heft 22, 15. November, S. 309.

METZKOW. — **Anwendung der Heimstoffe** « Zel wolle, Kunstharze und Kunstgummi » und Massnahme zur **Rohstofferhaltung bei der Deutschen Reichsbahn** (7 300 Wörter.)

1938 621 .131.2
sers Annalen, Heft 23, 1. Dezember, S. 319.
NORDMANN (H.). — **Dampflokomotiven mit einfa-er Dampfdehnung** in zwei oder drei Zylindern im rhältnis ihrer Verbrauchszahlen. (9 300 Wörter & 5 feln.)

1938 621 .138.1
sers Annalen, Heft 23, 1. Dezember, S. 329.
WITTE (Fr.). — Die Plannung neuzeitlicher **Betriebs-rke.** (4 000 Wörter & Abb.)

1938 621 .335 (.43)
sers Annalen, Heft 23, 1. Dezember, S. 337.
KLEINOW (W.). — Die **elektrischen Lokomotiven** r Deutschen Reichsbahn. (1 800 Wörter.)

1938 625 .251
sers Annalen, Heft 23, 1. Dezember, S. 338.
MÜLLER (P.). — Der **Bremsvorgang** als Wärmepro-m. ((2 600 Wörter.)

1938 621 .335
sers Annalen, Heft 23, 1. Dezember, S. 341.
HERMLE (H.). — Neuere Entwicklung der **elektri-en Ausrüstungen für Lokomotiven und Triebwagen.** 700 Wörter & Abb.)

rgan für die Fortschritte des Eisenbahnwesens. (Berlin.)

1938 621 .43 (.43)
gan für die Fortschr. des Eisenbahnwesens, Heft 23, 1. Dezember, S. 421.
ZIELKE (G.). — Die **dreiteiligen Schnelltriebwagen uart Köln** der Deutschen Reichsbahn. (4 400 Wörter Abb.)

1938 621 .13 (.43)
gan für die Fortschr. des Eisenbahnwesens, Heft 23, 1. Dezember, S. 426.
MECKEL (A.).— Die **Weiterentwicklung der Einheits-tomotiven** der Deutschen Reichsbahn unter dem Ge-htspunkt der Vereinheitlichung. (3 800 Wörter & b.)

1938 625 .232 (.73)
gan für die Fortschr. des Eisenbahnwesens, Heft 23, 1. Dezember, S. 433.
Neue **amerikanische Luxuszüge.** (1 800 Wörter & Abb.)

1938 621 .138.5 & 625 .26
gan für die Fortschr. des Eisenbahnwesens, Heft 23, 1. Dezember, S. 437.
Asbestbelegte Verschleissflächen an Lokomotiven und agen. (500 Wörter & Abb.)

1938 621 .134.1
gan für die Fortschr. des Eisenbahnwesens, Heft 23, 1. Dezember, S. 438.
Eine neue **Kolbenstangentragbüchse** für Lokomotiven. 00 Wörter & Abb.)

1938 625 .14
Organ für die Fortschr. des Eisenbahnwesens, Heft 24, 15. Dezember, S. 439.
CZITARY (E.). — Beitrag zur **Berechnung des Quer-schwellenoberbaues.** (2 700 Wörter, 22 Zahlentafeln & Abb.)

1938 625 .162 (.492) & 656 .254 (.492)
Organ für die Fortschr. des Eisenbahnwesens, Heft 24, 15. Dezember, S. 450.
VERSTEGEN (J. H.). — Die **selbsttätigen Warnan-lagen an Wegübergängen** bei den Niederländischen Eisenbahnen. (2 400 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure. (Berlin.)

1938 621 .392
Zeitschr. des Ver. deutsch. Ing., Nr. 49, 3. Dezember, S. 1399.
GABLER (K. G.). — **Schweissen dünner Leichtme-tallbleche** durch Widerstands-Schmelzschweissung. (1 200 Wörter & Abb.)

1938 62. (01
Zeitschr. des Ver. deutsch. Ing., Nr. 49, 3. Dezember, S. 1409.
Untersuchung an **Fachwerken aus geschweisstem Stahl und Eisenbeton** unter statischen und Dauerbeanspru-chungen. (1 300 Wörter & Abb.)

1938 62. (01
Zeitschr. des Ver. deutsch. Ing., Nr. 49, 3. Dezember, S. 1412.
BOLLENRATH (F.). — **Zeit- und Dauerfestigkeit** ungeschweisster und stumpfgeschweisster Chrom-molyb-dän-Stahlrohre bei verschiedenen Zug-mittelspannun-gen. (700 Wörter & Abb.)

1938 62. (01
Zeitschr. des Ver. deutsch. Ing., Nr. 50, 10. Dezember, S. 1419.
SIEBEL (E.). — Stand der **Verschleissforschung.** (4 800 Wörter.)

1938 62. (01 & 621 .82
Zeitschr. des Ver. deutsch. Ing., Nr 51, 17. Dezember, S. 1441.
STROHAUER (R.). — Vergleichende **Untersuchungen von Metall- und Kunstharzpressstoff-Lagern.** (8 000 Wörter & Abb.)

1938 62. (01
Zeitschr. des Ver. deutsch. Ing., Nr 51, 17. Dezember, S. 1455.
KUSKE (A.). — Berechnung von Fehlern infolge von Vorspannungen in der **Spannungsoptik.** (2 400 Wörter & Abb.)

1938 621 .43 & 662
Zeitschr. des Ver. deutsch. Ing., Nr 51, 17. Dezember, S. 1469.
ZINNER (K.). — Ermittlung der **motorischen Eig-nung von Kraftstoffen** durch Laboratoriumsprüfverfah-ren. (1 300 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1938 **656 .257**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 15, 20. November, S. 173; Nr. 16, 10. Dezember, S. 187.

SCHMITZ (W.). — Die **Einheitsweichenschaltung** der Deutschen Reichsbahn. (8 800 Wörter & Abb.)

1938 **656 .257**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 16, 10. Dezember, S. 185.

NEUMANN (G.). — **Elektrische Mehrreihenstellwerke.** (1 500 Wörter & Abb.)

1938 **625 .17 & 656 .25**

Zeitschr. für das ges. Eisenb..Sicherungs- und Fernmeldewesen, Nr. 16, 10. Dezember, S. 181.

SCHÄFER (L.). — **Gangbarhalten von Weichen und Signalen bei Frost und Schnee.** (1 000 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1938 **656 .222.5 (.492)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 47, 24. November, S. 881.

GIESBERGER (G. F.). — Der **Fahrplan** der Niederländischen Eisenbahnen vom 15. Mai 1938. (3 700 Wörter & Abb.)

1938 **385. (09 (.51)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 48, 1. Dezember, S. 897; Feft 49, 18. Dezember, S. 925.

TSCHAU (J.). — Das **Eisenbahnnetz Chinas.** (15 000 Wörter & Abb.)

1938 **62. (01 & 625 .143**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 48, 1. Dezember, S. 911.

KÜHNEL (R.). — **IV. Internationale Schienentagung** im September 1938, in Düsseldorf. (4 600 Wörter.)

1938 **656. (.494)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 49, 8. Dezember, S. 919.

WANNER (F.). — Der **schweizerische Güterverkehr mit Motorfahrzeugen** im Lichte der Statistik. (4 900 Wörter.)

1938 **385 .113 (.73)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 50, 15. Dezember, S. 943.

WERNEKKE. — Die **Eisenbahnen der Vereinigten Staaten von Amerika** im Jahre 1937. (5 600 Wörter.)

1938 **385. (.44)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 50, 15. Dezember, S. 954.

Die **französischen Notverordnungen** vom November und die Eisenbahn. (1 000 Wörter.)

1938 **621 .43 (.49**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 15. Dezember, S. 956.

Die **neuen dieselelektrischen Züge** der Niederländischen Eisenbahnen. (700 Wörter.)

1938 **621 .132.8 (.43), 621 .335 (.4 & 621 .43 (.4**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 22. Dezember, S. 963.

TETZLAFF (H.). — Deutsches **Triebwagenwes** (8 500 Wörter.)

1938 **385 .15 (.48**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 22. Dezember, S. 982.

Eisenbahnverstaatlichung in Schweden. (700 Wörte

In English.

Annals, American Academy of Political and Social Science. (Philadelphia.)

1938 **3 (06 (.73) &**

Annals, American Academy of Political and Soc Science, November.

Freedom of inquiry and expression. (A collection facts and judgments concerning freedom and suppressi of freedom of all forms of intellectual life.) (306 page

---

Bulletin, American Railway Engineering Association. (Chicago, Ill.)

1938 **65. (.7**

Bulletin American Railway Engineering Associati No. 406, November, p. 65.

Report of Committee 26—**Standardization.** (2 4 words.)

1938 **621 .39 (.7**

Bulletin American Railway Engineering Associati No. 406, November, p. 71.

Report of Committee 18—Electricity. **Developments application of electricity,** etc. (1 700 words.)

1938 **347 .75 (.7**

Bulletin American Railway Engineering Associati No. 406, November, p. 77.

Report of Committee 20—**Uniform general contra forms.** Form of agreement to cover operation of co missary and boarding outfits. (2 600 words.)

1938 **656 .2 (.7**

Bulletin American Railway Engineering Associati No. 406, November, p. 83.

Report of Committee 16 — **Economics of railw location and operation.** (32 000 words, tables & fig.)

Electrical Industries. (London.)

.938 **621** .31 (.42)
ectrical Industries, No. 12, December, p. 506.
Analysis of generation 1922-1937. Progress of generon performance since 1922 is discussed and the **main tors concerning steam stations analysed.** Notes are en on results of water and oil stations. (2 500 words fig.)

1938 **621** .31
ectrical Industries, No. 12, December, p. 519.
BARRY (W. C.). — **Super-tension cables.** (3 200 words ig.)

Engineer. (London.)

1938 **621** .39 & **621** .9
gineer, No. 4323, November 18, p. 552.
Individual electric driving. (2 500 words & fig.)

1938 **385** & **656**
gineer, No. 4323, November 18, p. 565.
World transport. (3 000 words.)

1938 **625** .135 (.42)
gineer, No. 4323, November 18, p. 571.
Railway junction at Newcastle-on-Tyne. (500 words fig.)

1938 **62.** (01
gineer, No. 4323, November 18, p. 572.
BRAGG (Sir William). — The molecular basis of the engths of materials. (4 400 words.)

1938 **621** .135 (01 (.68 & **625** .2 (01 (.68)
gineer, No. 4324, November 25, p. 581.
Derailing tests on South African Railways. (3 600 rds & fig.)

1938 **62.** (01 & **621** .114
gineer, No. 4324, November 25, p. 590.
Interesting shaft fractures. (1 000 words & fig.)

1938 **621** .43 & **621** .8
gineer, No. 4324, November 25, p. 594.
The control of railcars. (4 700 words.)

1938 **621** .43 & **621** .8
gineer, No. 4324, November 25, p. 602.
WILSON (Major W. G.). — **The control of diesel ilcars.** (2 200 words.)

1938 **621** .6
gineer, No. 4325, December 2, p. 614.
Blowers and exhausters for industrial application. 500 words & fig.)

1938 **656** .1 (.42)
gineer, No. 4325, December 2, p. 619.
Road and rail again. (2 800 words.)

1938 **62.** (01
Engineer, No. 4325, December 2, p. 620.
Non-destructive testing. (2 300 words.)

1938 **656** .212.6 (.42)
Engineer, No. 4325, December 2, p. 625.
Forty-foot sack stackers. (500 words & fig.)

1938 **62.** (01
Engineer, No. 4325, Dezember 2, 626.
FORSTER (F.) and KOSTER (W.). — **Elasticity and damping in relation to the state of the material.** (3 800 words & fig.)

1938 **621** .95
Engineer, No. 4326, December 9, p. 650.
SCHLESINGER (Prof. Dr.-Ing. G.). — **The cutting angle of twist drills.** (2 200 words & fig.)

1938 **385.** (.71)
Engineer, No. 4326, December 9, p. 652.
The Railway position in North America. (1 100 words.)

The Engineering (London).

1938 **669** .1 (06 (.42)
Engineering, No. 3801, November 18, p. 580.
The Iron and Steel Institute. **Specific heat-temperature curves of irons and steels.** Research on steel castings. (4 400 words.)

1938 **625** .153 (.42)
Engineering, No. 3801, November 18, p. 584.
Re-laying of **railway junction** at Newcastle-upon-Tyne. (400 words.)

1938 **624.** (.42)
Engineering, No. 3801, November 18, p. 587.
The reconstruction of Waterloo bridge London. (1 800 words.)

1938 **62.** (06 (.42)
Engineering, No. 3801, November 18, p. 594.
The National Physical Laboratory. **Thermal properties of metals and building and insulating materials.** (5 800 words.)

1938 **533** & **536**
Engineering, No. 3802, November 25, p. 605.
WALLIS (R. P.) and WHITE (C. M.). — **Resistance to flow through nests of tubes.** (2 000 words & fig.)

1938 **62.** (01
Engineering, No. 3802, November 25, p. 611.
SEAGER (G. C.) and TAIT (W. H.). — **Apparatus for high-speed repeated impact testing of metals** under separately-applied stress. (900 words.)

1938 **621** .392
Engineering, No. 3802, November 25, p. 613.
The drying of coated welding rods. (1 400 words & fig.)

1938 **621 .39 & 656**
Engineering, No. 3802, November 25, p. 613.
BIRD (G.) and GARWOOD (F.). — **Automatic traffic counter.** (2 300 words & fig.)

1938 **621 .43 & 621 .8**
Engineering, No. 3802, November 25, pp. 621 and 630.
WILSON (Major W. G.). — The **control of diesel railcars,** with particular reference to **transmissions.** (Paper read before the Institution of Mechanical Engineers on Nov. 18, 1938.) Abridged. Discussion. (12 500 words & fig.)

1938 **651. (.42) & 656 .212.6 (.42)**
Engineering, No. 3803, December 2, p. 635.
Mechanical equipment of the General Post Office. Mount Pleasant sorting office, London. (3 400 words & fig.)

1938 **621 .7 & 698**
Engineering, No. 3803, December 2, p. 657.
Zinc-sprayed steel butane tanks. (2 500 words & fig.)

1938 **621 .9**
Engineering, No. 3803, December 2, p. 659.
SWIFT (H. W.). — **The functions of cutting fluids.** (3 800 words & fig.)

1938 **621 .116**
Engineering, No. 3804, December 9, p. 665.
WALLIS (R. P.). — **Resistance to flow through nests of tubes.** (1 800 words & fig.) (To be continued.)

1938 **0**
Engineering, No. 3804, December 9, p. 684.
An international electro-technical vocabulary. (600 words.)

1938 **621 .116**
Engineering, No. 3804, December 9, p. 691.
The « Vaposcope » indicator for steam traps. (700 words.

Engineering News-Record. (New York.)

1938 **691 & 694**
Engineering News-Record, No. 18, November 3, p. 551.
HORN (E. H.). — **Plywood makes a building.** (1 600 words & fig.)

1938 **693. (.73)**
Engineering News-Record, No. 19, November 10, p. 589.
MEISSNER (H. S.) and MORAN (W. T.). — **The field for low-heat cement.** (5 000 words.)

1938 **624 .8 (.73)**
Engineering News-Record, No. 20, November 17, p. 618.
Lift bridge mechanisms and controls. (4 200 words & fig.)

1938 **625 .144.4 (.73) & 625 .17 (.73)**
Engineering News-Record, No. 20, November 17, p. 622.
Railroad use of construction equipment. (1 800 words.)

1938 **624.**
Engineering News-Record, No. 22, December 1, p. 7
Bridge bearing rollers. (300 words.)

1938 **725 .33 (.49**
Engineering News-Record, No. 22, December 1, p. 7
LIEFRINCK. — **Water towers** in the Netherlan
(1 500 words & fig.)

1938 **624. (.7**
Engineering News-Record, No. 23, December 8, p. 7
LAMOTTE-GROVER. — **Underpass built in a fl**
plain. (3 200 words & fig.)

Journal, Institute of Transport. (London.)

1938 **656 .211.7 (**
Journal, Institute of Transport, December, p. 65.
HARDY (A. C.). — **Cross-channel services** from passenger viewpoint. (12 000 words & tables.)

Journal, Institution of Civil Engineers. (London.)

1938 **721**
Journal, Institution of Civil Engineer, December, p.
The relative merits of **pre-cast and cast-in-situ pi**
(3 300 words.)

1938 **624 & (**
Journal, Institution of Civil Engineer, December, p.
The principles of **river-training for railway brid**
and their application to the case of the Hardi
Bridge over the Lower Ganges at Sara. (40 000 word
fig.)

1938 **624. (.4**
Journal, Institution of Civil Engineer, December, p.
Some examples of the **design and construction**
bridges in Denmark. (1 100 words.)

1938
Journal, Institution of Civil Engineer, December, p.
The **total-heat-entropy diagram** for Diphenyl. (4
words, tables & fig.)

1938 **621 .165 & 621**
Journal, Institution of Civil Engineer, December, p.
A suggested basis of comparison for the efficie
of **steam turbo-generators** and of **steam-electric ge**
rating stations. (4 200 words & fig.)

London & North Eastern Railway Magazine (London.)

1938 **625 .153 (.**
London & North Eastern Railway Magazine, No.
December, p. 666.
Complicated crossings at Newcastle Central Stat
(700 words & fig.)

Mechanical Engineering. (New York.)

938 **385 .586**
hanical Engineering, No. 12, December, p. 901.
EELY (W.). — **The cost of apprenticeship.** (2 600 ds & fig.)

---

938 **313 : 621 .1 (∞) & 313 : 625 .2 (∞)**
hanical Engineering, No. 12, December, p. 909.
rogress in railway mechanical engineering, 1937-8. (8 400 words & fig.)

---

938 **62. (01 & 669**
hanical Engineering, No. 12, December, p. 931.
EGEMAN (M. L.). — **Hard-surfacing processes** and erials. (6 000 words.)

---

938 **614 .8 & 662**
hanical Engineering, No. 12, December, p. 936.
ROWN (H. R.). — **Control of dust explosions** in ıstrial plants. (3 800 words.)

---

938 **669 .1**
hanical Engineering, No. 12, December, p. 943.
oundry metals. — Abstracts of three papers deal- with cast steel, malleable cast iron, and high- ngth gray iron. (6 400 words & fig.)

---

938 **536**
hanical Engineering, No. 12, December, p. 971.
quation of state for steam. (600 words & fig.)

Modern Transport. (London.)

938 **388. (.42) & 656 .23 (.42)**
ern Transport, No. 1023, October 22, p. 3.
ondon transport and the **fares question.** (2 000 ds.)

---

938 **385. (091 (.437)**
ern Transport, No. 1023, October 22, p. 9.
ailway position in Czechoslovakia. New frontier ions. (1 300 words.)

---

938 **656. (.42)**
ern Transport, No. 1027, November 19, p. 3.
ANCE (Sir H. Osborne). — **Road and rail : A ten-** re suggestion for a competitive regime as an alter- ve to monopoly. (3 300 words & fig.)

---

938 **656 .211 .5**
ern Transport, No. 1027, November 19, p. 6.
rain describers. — Functions and operation. (1 000 ds.)

---

938 **385 .1 (.42)**
ern Transport, No. 1028, November 26, p. 3.
HERRINGTON (C. E. R.). — Problems of present- transport. **Financial position of the railways.** 00 words.)

1938 **385. (091 (.56)**
Modern Transport, No. 1028, November 26, p. 4.
Transport developments in post-war Turkey. Road and rail construction. (2 400 words & fig.)

1938 **621 .43 (.42)**
Modern Transport, No. 1028, November 26, p. 6.
A. E. C. **oil-engined shunting locomotives.** (600 words & fig.)

1938 **656 .211.7 (.42)**
Modern Transport, No. 1028, November 26, p. 7.
Characteristics of **cross-channel ships.** Influences effecting design. (1 700 words.)

1938 **385. (.42)**
Modern Transport, No. 1029, December 3, p. 3.
SZLUMPER (G. S.). — **Further amalgamation of railways would offer no solution of problem.** (1 800 words.)

1938 **656. (.41)**
Modern Transport, No. 1029, December 3, p. 5.
Transport in Northern Ireland. McLintock Committee recommends **unification.** (4 000 words.)

1938 **656 .211.4 (.42) & 725 .31 (.42)**
Modern Transport, No. 1029, December 3, p. 7.
New Station at Uxbridge. (1 500 words & fig.)

1938 **656 .1 (.42)**
Modern Transport, No. 1030, December 10, p. 3.
HICKS (Sir Maxwell). — Incidence of **motor taxation.** Adjustment needed to meet modern conditions. (2 000 words.)

1938 **385 .3 (.42) & 656 .23 (.42)**
Modern Tarnsport, No. 1030, December 10, p. 4.
Railway rates and charges. Restrictions from which relief is sought. (2 100 words.)

1938 **347 .763 (.42) & 656 .1 (.42)**
Modern Transport, No. 1030, December 10, p. 5.
ROBINSON (G. E.). — **Control of road transport** in Great Britain. Origin, development and operation of the existing licensing system. Royal Commission on transport. (4 800 words.) (To be continued.)

1938 **621 .132.3 (.82)**
Modern Transport, No. 1030, December 10, p. 7.
British-built locomotives for Argentina. (1 400 words & fig.)

1938 **385 .3 (.42)**
Modern Transport, No. 1030, December 10, p. 9.
BONAVIA (M. R.). — **A square deal.** Railway campaign and its possible consequences. (1 900 words.)

Proceedings, American Society of Civil Engineers. (New York.)

1938 **385 .21 (.73)**
Proc., Amer. Soc. Civil Eng., No. 9, November, p. 1731.
TYLER (M. C.). — **Great Lakes transportation.** (10 000 words.)

1938 **656. (.73)**
Proc., Amer. Soc. Civil Eng., No. 9, November, p. 1751.
LAVIS (F.). — **Transportation developments** in the United States. (9 000 words.)

1938 **62. (01 & 721 .3**
Proc., Amer. Soc. Civil Eng., No. 9, November, p. 1787.
HOLT (M.). — Tests on built-up **columns of structural aluminium alloys.** (8 500 words & fig.)

1938 **62. (01 & 624**
Proc., Amer. Soc. Civil Eng., No. 9, November, p. 1829.
RUST (T. H.). — Specification and design of **steel gusset-plates.** (8 100 words & fig.)

Railway Age. (New York.)

1938 **385. 1 (.73) & 625 .111 (.73)**
Railway Age, No. 17, October 22, p. 589.
Seek relief for railroads from **grade separation costs.** (4 200 words.)

1938 **614 .8 (06 (.73)**
Railway Age, No. 17, October 22, p. 593.
Safety Jubilee held in Chicago. Council favors **apportionment of costs of grade crossing separations in proportion to benefits received.** (3 900 words.)

1938 **625 .2 (0 (.73)**
Railway Age, No. 17, October 22, p. 596.
DUNHAM (W. E.). — The transportation « **Container.** (4 300 words.)

1938 **625 .154 (.73)**
Railway Age, No. 20, November 12, p. 698.
Northern Pacific builds **turntables 135 ft. long.** (1 400 words.)

1938 **621 .13 (0**
Railway Age, No. 20, November 12, p. 700.
ROESCH (F. P.). — Why retain vestiges of the past? A few pointed questions directed at **archaic details of locomotive design which affect fuel economy.** (3 900 words.)

1938 **656 .258 (.73)**
Railway Age, No. 20, November 12, p. 703.
Remote control interlockings on the Pennsylvania. (2 900 words & fig.)

1938 **385 .114 (.73) & 621 .43 (.73)**
Railway Age, No. 21, November 19, p. 733.
CHAPMAN (E. E.). — **Diesel and steam locomotives in high-speed service.** (3 000 words & fig.)

1938 **621 .392 (.73) & 625 .13 (**
Railway Age, No. 21, November 19, p. 739.
Overcomes problems in **welding** wrought iron br decks. (1 800 words & fig.)

1938 **621 .138.2 (.73) & 625 .27 (**
Railway Age, No. 21, November 19, p. 742.
Railway stores and railway economies. (3 000 w & fig.)

1938 **656 .235 (.73) & 656**
Railway Age, No. 21, November 19, p. 745.
Roads should perform freight forwarding serv (3 800 words.)

1938 **656 .212.6 (**
Railway Age, No. 21, November 19, p. 748.
Merchandise **handling problems.** (2 600 words.)

1938 **385. (064 (**
Railway Age, No. 22, November 26, p. 766.
World's Fair night at N. Y. Club. **Railroaders talks on fair transport plans and railroad exhi** (2 800 words & fig.)

1938 **625 .**
Railway Age, No. 22, November 26, p. 770.
NYSTROM (K. F.). — Why **light-weight fre** cars ? (3 500 words.)

1938 **621 .138.5 (**
Railway Age, No. 22, November 26, p. 773.
Burlington builds **unusual locomotive scale.** (words & fig.)

1938 **385 .3 (**
Railway Age, No. 22, November 26, p. 776.
R. R. Regulators in yearly parley consider **rail motor regulatory problems** at New Orleans. (words.)

1938 **625 .245 (.**
Railway Age, No. 22, November 26, p. 785.
Motor cars by rail in Hungary. (300 words & fig.

1938 **385 .1 (**
Railway Age, No. 23, December 3, p. 800.
What will earnings be in 1939 ? (2 600 words.)

1938 **621 .132.3 (.73) & 621 .132.5 (**
Railway Age, No. 23, December 3, p. 803.
New passenger and freight power for the Santa (4 400 words & fig.)

1938 **625 .26 (.73) & 725 .33 (**
Railway Age, No. 23, December 3, p. 810.
Peoria & Pekin Union builds **new car-repair sh** (1 600 words & fig.)

1938 **621 .139 (.73) & 625 .27 (**
Railway Age, No. 23, December 3, p. 812.
WARNE (C. C.). — **Open door policy** rules New Central purchasing. (2 200 words & fig.)

1938 **621** .138.1 (.73) & **725** .33 (.73)
ilway Age, No. 24, December 10, p. 836.
Pennsylvania constructs **engine terminal** at Harris-rg. (4 200 words & fig.)

1938 **621** .392 (.73) & **625** .24 (.73)
ilway Age, No. 24, December 10, p. 843.
General American **light-weight all-welded box car.** 200 words & fig.)

1938 **621** .133.4 (.73)
ilway Age, No. 24, December 10, p. 844.
Anderson spark eliminator shows good results. (1 000 rds & fig.)

1938 **621** .43 (.73)
ilway Age, N° 24, December 10, p. 846.
Rail motor cars solve problems. (1 400 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1938 **625** .174 (.73)
ilway Engineering & Maintenance, December, p. 766.
SCHRAM (I. H.). — **Are you ready for winter ?** 000 words & fig.)

1938 **625** .174 (.73)
ilway Engineering & Maintenance, December, p. 769.
WYANT (L.). — **Electric switch heaters** solve winter oblem at important interlocking. (1 100 words & fig.)

1938 **625** .174 & **625** .19
ilway Engineering & Maintenance, December, p. 770.
Winter presents problems to every maintenance man rack, bridges, buildings, water service). (6 200 words fig.)

1938 **725** .3
ilway Engineering & Maintenance, December, p. 776.
KIMBALL (L. P.). — Current trends in the **design railway buildings.** (3 000 words & fig.)

Railway Gazette. (London.)

1938 **625** .123 (.42) & **625** .13 (.42)
ilway Gazette, No. 21, November 18, p. 861.
Kilsby tunnel drainage. (600 words & fig.)

1938 **656** .211.5 (.82)
ilway Gazette, No. 21, November 18, p. 862.
New train indicator in Buenos Aires. (600 words & g.)

1938 **625** .153 (.42)
ilway Gazette, No. 21, November 18, p. 864.
New manganese junction at Newcastle, L. N. E. R. 00 words & fig.)

1938 **621** .4 (.42) & **656** .1 (.42)
Railway Gazette, No. 21, November 18, p. 868.
SHEARMAN (J.). — Road motors for short-mileage work. — I. (4 000 words & fig.)

1938 **621** .132.8 (.44) & **621** .133 (.44)
Railway Gazette, No. 22, November 25, p. 895.
Possibilities of **velox boiler for locomotives.** (300 words & fig.)

1938 **721** .5 (.42)
Railway Gazette, No. 22, November 25, p. 901.
Reinforced concrete roofs at Blackpool, L. M. S. R. (400 words & fig.)

1938 **385.** (091 (.437)
Railway Gazette, No. 22, November 25, p. 903.
The new frontiers in Czechoslovakia. (1 200 words & 1 map.)

1938 **621** .13 & **669** .1
Railway Gazette, No. 22, November 25, p. 904.
Locomotive and rolling stock metallurgy. (800 words.)

1938 **621** .135 (01
Railway Gazette, No. 22, November 25, p. 904.
Locomotive balancing practice. (300 words.)

1938 **621** .132.3 (.82)
Railway Gazette, No. 22, November 25, p. 905.
New locomotives for Argentina. (1 200 words & fig.)

1938 **656** .255 (.42)
Railway Gazette, No. 22, November 25, p. 908.
A modified train staff and ticket system. (1 500 words & fig.)

1938 **625** .19 (.42)
Railway Gazette, No. 22, November 25, p. 909.
Noise reduction on the Underground. (100 words & fig.)

1938 **625** .213 (.42)
Railway Gazette, No. 22, November 25, p. 910.
Railway vehicle suspension. (400 words & fig.)

1938 **656** .23 (.42)
Railway Gazette, No. 22, November 25, p. 916.
The fall in British railway traffics. (2 500 words.)

1938 **656** .252
Railway Gazette, No. 23, December 2, p. 954.
TOWERS (H. C.). — **Tail lamps.** (900 words.)

1938 **625** .143.2 (.43)
Railway Gazette, No. 23, December 2, p. 955.
The production of **martensitic rails.** (2 800 words.)

1938 **625** .143.4 (.62)
Railway Gazette, No. 23, December 2, p. 957.
Rail expansion joints in India. (200 words & fig.)

1938 **625 .232 (.51)**
Railway Gazette, No. 23, December 2, p. 959.
Remarkable **third-class sleeping cars.** (900 words & fig.)

1938 **621 .132.5 (.68)**
Railway Gazette, No. 23, December 2, p. 961.
New 4-8-2 type locomotives for South Africa. (1 900 words & fig.)

1938 **656 .211 (.42) & 725 .31 (.42)**
Railway Gazette, No. 23, December 2, p. 967.
New Uxbridge Station and improved train service, London transport. (1 000 words & fig.)

1938 **656 .253**
Railway Gazette, No. 24, December 9, p. 995.
The evolution of the **distant signal.** (800 words.)

1938 **625 .234 (.42)**
Railway Gazette, No. 24, December 9, p. 996.
Carriage ventilation on the L. M. S. R.. (200 words & fig.)

1938 **621 .132.8 (.68)**
Railway Gazette, No. 24, December 9, p. 997.
New 4-8-2 + 2-8-4 Beyer-Garatt locomotives for the S. A. R. (3 800 words & fig.)

1938 **625 .175 (.54)**
Railway Gazette, No. 24, December 9, p. 1004.
Mobile permanent-way gangs in India. (1 100 words & fig.)

1938 **385 .4 (.44)**
Railway Gazette, No. 24, December 9, p. 1010.
The **commercial organisation** of the French Railways. (1 800 words.)

1938 **621 .43 (.73)**
Diesel Railway Traction, p. 928, Supplt. to the Railway Gazette, November 25.
1 000 b.h.p. shunters for the Ford plant. (4 000 words & fig.)

1938 **621 .43 & 621 .8**
Diesel Railway Traction, p. 933, Supplt. to the Railway Gazette, November 25.
WILSON (Major W. G.). — **The control of diesel railcars.** (4 300 words & fig.)

1938 **621 .43 & 621 .8**
Diesel Railway Traction, p. 936, Supplt. to the Railway Gazette, November 25.
McARD (G. W.). — **Worm drives for railcars and locomotives.** (1 600 words & fig.)

1938 **621 .43 (.85)**
Diesel Railway Traction, p. 939, Supplt. to the Railway Gazette, November 25.
Local railcars for Peru. (1 700 words & fig.)

1938 **725 .33 (**
Diesel Railway Traction, p. 941, Supplt. to the Rai Gazette, November 25.
A new railcar depot in Germany. (700 words.)

1938 **313 : 621 .43 (**
Diesel Railway Traction, p. 941, Supplt. to the Rail Gazette, November 25.
French railcar statistics. (200 words.)

1938 **621 .33 (.4**
Electric Railway Traction, p. 1024, Supplt. to the R way Gazette, December 9.
Single-phase electric train sets in Switzerland. (2 words & fig.)

1938 **621 .33 (**
Electric Railway Traction, p. 1028, Supplt. to the R way Gazette, December 9.
Recent electric traction developments in Italy. (1 words & maps.)

Railway Magazine. (London.)

1938 **656 .222.1 (**
Railway Magazine, No. 498, December, p. 394.
American express trains in the summer of (3 000 words & tables.)

1938 **656 .258 (**
Railway Magazine, No. 498, December, p. 415.
A remarkable signalling feat. **(Burnt out signal brought into use again in 13 days.)** (800 words &

1938 **625 .113 (**
Railway Magazine, No. 498, December, p. 440.
The main-line gradients of French Railways (Eas Region). (200 words & tables.)

1938 **656 .222.1 (**
Railway Magazine, No. 498, December, p. 441.
Recent French locomotive performance. (1 200 w & tables.)

Railway Mechanical Engineer. (New York.

1938 **621 .133 (06 (**
Railway Mechanical Engineer, No. 11, November, p.
Reports presented at business meeting of the Ma **Boiler Makers Association.** (13 000 words & fig.)

1938 **625 .2 (06 (**
Railway Mechanical Engineer, No. 11, November, p.
Car Men's Association annual meeting. (8 500 w & fig.)

1938 **621 .13 (06 (**
Railway Mechanical Engineer, No. 11, November, p.
Locomotive supervisors discuss **fuel and opera problems** (20 000 words & fig.)

1938 621 .132.8 (.73)
llway Mechanical Engineer, No. 11, November, p. 444.
Distinctive design features 4-6-4 type Milwaukee
motives. (4 500 words & fig.)

1938 621 .132.3 (.73)
llway Mechanical Engineer, No. 12, December, p. 463.
Atlantic Coast Line 4-8-4 locomotive. (2 000 words &
)

1938 621 .392 (.73) & 625 .24 (.73)
llway Mechanical Engineer, No. 12, December, p. 468.
Lightweight welded box cars and refrigerator cars.
200 words & fig.)

1938 621 .13 (0 (.42)
llway Mechanical Engineer, No. 12, December, p. 473.
FRY (L. H.). — The evolution of the locomotive in
ance. (2 900 words.)

1938 625 .215 (.73)
llway Mechanical Engineer, No. 12, December, p. 475.
Improved Barber truck. (700 words & fig.)

1938 621 .9 (.73)
llway Mechanical Engineer, No. 12, December, p. 481.
Decatur freight car shop devices. (1 300 words & fig.)

Railway Signaling. (Chicago.)

1938 656 .257 (.73)
ilway Signaling, December, p. 687.
Milwaukee rehabilitates large signaling plant. (4 500
rds & fig.)

1938 621 .39 (.73) & 656 .25 (0 (.73)
ilway Signaling, December, p. 693.
TOWERS (H. C.). — Power factor improvement.
000 words & fig.)

1938 656 .253 (.73)
ilway Signaling, December, p. 694.
Signaling yard leads. (1 200 words & fig.)

1938 656 .256.3 (.73)
ilway Signaling, December, p. 696.
New automatic blocks on the Missouri Pacific. (2 900
rds & fig.)

1938 656 .257 (.73)
ilway Signaling, December, p. 701.
Auto-manual control at five crossings. (4 300 words
fig.)

outh African Railways and Harbours Magazine. (Johannesburg.)

1938 621 .132.8 (.68)
uth African Railways & Harbours Magazine, Nov.,
p. 1421.
Mechanical Department's activities : New 4-8-2 —
8-4 Garratt type locomotive placed in service. (1 500
rds & fig.)

The Locomotive. (London.)

1938 614 .7
The Locomotive, No. 556, December 15, p. 369.
Smoke. (1 400 words.)

1938 621 .132.3 (.82) & 621 .132.5 (.82)
The Locomotive, No. 556, December 15, p. 370.
Buenos Ayres Great Southern Railway class 12 K 4-6-2 and class 15 A 4-8-0 locomotives. (300 words & tables.)

1938 621 .134.2 & 621 .134.3
The Locomotive, No. 556, December 15, p. 373.
Some « improved » locomotive valve gears. (1 600 words & fig.)

1938 621 .133.8
The Locomotive, No. 556, December 15, p. 376.
Automatic snifting valves. (1 100 words.)

1938 621 .134 (.73)
The Locomotive, No. 556, December 15, p. 389.
The machine efficiency of American locomotives. (1 500 words.)

1938 656 .254 (.438)
The Locomotive, No. 556, December 15, p. 391.
Kofler train control on the Polish State Railways. (300 words & fig.)

1938 621 .43 (.85) & 625 .3 (.85)
The Locomotive, No. 556, December 15, p. 392.
KOFFMANN (J. L.). — Railcar operation at high altitudes. (2 200 words & fig.)

1938 621 .133.7 (.42)
The Locomotive, No. 556, December 15, p. 398.
The mechanical treatment of feedwater. (1 000 words & fig.)

The Oil Engine. (London.)

1938 621 .43
The Oil Engine, No. 68, Mid December, p. 234.
Pressure charging high speed four-stroke engines. (1 400 words, tables & fig.)

1938 621 .31 (.42) & 621 .43 (.42)
The Oil Engine, No. 68, Mid December, p. 243.
Emergency generating sets in London tube stations. (500 words & fig.)

1938 621 .43 (.42)
The Oil Engine, No. 68, Mid December, p. 250.
New industrial diesel shunters. (300 words & fig.)

Transit Journal. (New York.)

1938 625 .4 (.47)
Transit Journal, November, p. 444.
The Metro in Moscow. (900 words & fig.)

1938 **385 .582 (.73)**
Transit Journal, November, p. 450.
DESILVA (H. R.), CLAFLIN (R. G.) and SIMON (W. J.). — **Making safer bus drivers.** (1 800 words & fig.)

1938 **62. (01 (.42) & 625 .4 (.42)**
Transit Journal, November, p. 482.
TREVOR (J. S.). — **Silencing London's tubes.** (1 700 words & fig.)

1938 **625 .26 (.73)**
Transit Journal, November, p. 484.
Methods by which **maintenance costs** were reduced and performance improved on Pittsburgh Railways, by prize winner in « Transit Journal » maintenance contest. (3 000 words & fig.)

1938 **625 .26 (.73)**
Transit Journal, November, p. 488.
Atlanta gets honorable mention. Special certificate of merit in **maintenance contest** awarded to Georgia Power Company for increased work and better performance. (1 300 words & fig.)

1938 **621 .33 (.73)**
Transit Journal, November, p. 491.
Milwaukee's latest **trolleybuses.** (300 words & fig.)

1938 **621 .43 (.73)**
Transit Journal, November, p. 492.
Mack introduces new **diesel engines.** (1 100 words & fig.)

1938 **625 .26 (.73)**
Transit Journal, November, p. 494.
Maintenance ideas. (2 000 words & fig.)

In Spanish.

Boletín de la Asociación internacional permanente del Congreso Sudamericano de ferrocarriles. (Buenos Aires.)

1938 **385 .4 (.44)**
Boletín de la Asoc. intern. perm. del Congreso Sudamer. de ferrocarriles, septiembre-octubre, p. 16.
HARCAVI (G.). — Evolución del **régimen administrativo de los ferrocarriles franceses** en los siglos XIX y XX. (6 200 palabras.) (Continuará.)

1938 **656 .223.2**
Boletín de la Asoc. intern. perm. del Congreso Sudamer. de ferrocarriles, septiembre-octubre, p. 28.
PHEASANT (E.). — **Utilización de vagones.** (3 900 palabras.)

In Italian.

Annali dei lavori pubblici. (Roma.)

1938 **656 .215**
Annali dei lavori pubblici, agosto, p. 664.
di NAPOLI (A.). — Gli impianti di **illuminaz riscaldamento e climatizzazione** della nuova sta di Salsomaggiore. (6 000 parole & fig.)

1938 **624 .61**
Annali dei lavori pubblici, agosto, p. 686.
I nuovi **ponti** « d'Africa » e « S. Paolo » sul T a Roma. (1 300 parole & fig.)

La tecnica professionale. (Firenze.)

1938 **625 .232 (.45) &**
La tecnica professionale, dicembre, p. 268.
del GUERRA (G.). — **L'impiego dell' alluminio** nuove carrozze a due sale CI-BCI-BCDI. (1 700 p & fig.)

L'Ingegnere. (Roma.)

1938 **621**
L'Ingegnere, 15 novembre, p. 780.
BUSDRAGHI (R. B.). — **L'eliminazione del** nelle linee aeree di contatto per trazione elet (1 800 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Rom

1938 **261 .33**
Rivista tecnica delle ferrovie ital., 15 novembre, p
VELANI (L.). — La **trazione ferroviaria** e l'a chia. (7 500 parole & fig.)

1938 **625 .2 &**
Rivista tecnica delle ferrovie ital., 15 novembre, p
PERFUMO (P.). — **Impianto di sabbiatura** carrozze e per carri-serbatoio. (3 000 parole & fig.

In Dutch.

De Ingenieur. (Den Haag.)

1938 **62. (01 & 621**
De Ingenieur, Nr 47, 25 November, p. A. 465.
THIERENS (J. F.). — De achtste **laschreunie.** woorden & fig.)

1938 **62. (01 &**
De Ingenieur, Nr 48, 2 December, p. Bt. 79.
BENDEL (L.). — Grundlagen um gleichmässi schaffenen **Beton** zu erhalten. (6 600 woorden, 10 T & fig.)

1938 656. (.44)
Ingenieur, Nr 49, 9 December, p. A. 488.
Coördinatiemaatregelen in Frankrijk. (1 500 woor-

Spoor- en Tramwegen. (Utrecht.)

1938 656 .222.1 (.492)
oor- en Tramwegen, Nr 24, 22 November, p. 591.
VAN ALBADA (N. B.). — Opmerkingen over den inbelastingstaat der Nederlandsche Spoorwegen. 400 woorden.)

1938 656 .222.1 (.492)
oor- en Tramwegen, Nr 24, 22 November, p. 598.
VIENER (L.). — De snelheden der treinen in Neland. (1 500 woorden & fig.)

1938 656 .225 (.492) & 656 .261 (.492)
oor- en Tramwegen, Nr 24, 22 November, p. 600.
De autolaadkist der Nederlandsche Spoorwegen. 400 woorden & fig.)

1938 621 .43 (.492)
oor- en Tramwegen, Nr 25, 6 December, p. 613.
De nieuwe Diesel-electrische treinen der Nederlande Spoorwegen. (4 500 woorden & fig.)

1938 656 .222.1 (.92)
Spoor- en Tramwegen, Nr 25, 6 December, p. 622.
BOGSTRA (N. A.). — De ontwikkeling van het snelverkeer per rail tusschen Soerabaja en Malang. (1 800 woorden & fig.)

In Portuguese.

Revista das estradas de ferro. (Rio de Janeiro.)

1938 656
Revista das Estradas de ferro, n° 320, 15 de novembro, p. 2152; n° 321, 30 de novembro, p. 2172.
Coordenação de transportes. (4 700 palavras.)

Tècnica. (Lisboa.)

1938 625 .1 (.493)
Tècnica, dezembro, p. 42.
Travaux de la Jonction Nord-Midi, à Bruxelles. (5 400 mots & fig.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(MARCH 1939)

016. 385. (02]

I. — BOOKS.

In French.

1938 **691**

ENDEL (L.).

es éléments de la fabrication du béton. Choix et paration des matériaux.

ausanne, F. Rouge et Cie. 1 volume, 120 pages, 28 fi-és et 7 tableaux. (Prix : 6 fr. suisses.)

1939 **621 .165**

AFT (E. A.).

a turbine à vapeur moderne.

aris, Dunod, 92, rue Bonaparte. 1 volume, 283 pages 247 figures. (Prix : 115 fr. français.)

1937 **313 .385 (.494)**

tatistique des Chemins de fer suisses.

erne, Département fédéral des Postes et des Che-ıs de fer. 1 volume, 207 pages. (Prix : 5 fr. suisses.)

1938 **313 .385 (.437)**

tatistique des Chemins de fer tchécoslovaques pour 7.

raha, Ministère des Chemins de fer tchécoslovaques. olume, 186 pages et 1 carte.

1938 **313 .385 (.3)**

tatistique internationale des Chemins de fer pour nnée 1937.

aris, Secrétariat de l'Union Internationale des Che-ıs de fer, 10, rue de Prony. 19 tableaux. (Prix : fr. français.)

In German.

1938 **721**

ENNECKE (L.).

Der Grundbau.

Berlin, W. Ernst & Sohn. 1 Band, 248 Seiten und 3 Bildern. (Preis : 21 R. M.)

1938 **698**

Bücher der Anstrichtechnik (Drittes Buch).

Berlin, V-D-I-Verlag, G.m.b.H. 1 Band. 104 Seiten. Tafeln und 84 Abbildungen. (Preis : 7.50 R. M.)

1938 **621 .43**

HELDT (P. M.).

Schnellaufende Dieselmotoren für Kraftwagen, Flugzeuge. Schiffe, Eisenbahnen und industrielle Zwecke.

Berlin, Richard Carl Schmidt & Co. 1 Band. 257 Seiten und 228 Bildern. (Preis : 13.50 R. M.)

1938 **625 .113**

HÖFER (M.).

Bogen-Tafeln für Teilung des Kreises in 400 g.

Berlin, Julius Springer. 1 Band. (Preis : 7.50 R. M.)

1938 **721**

KÖGLER (F.) und SCHEIDIG (A.).

Baugrund und Bauwerk.

Berlin, Wilhelm Ernst und Sohn. 1 Band. 288 Seiten. (Preis : 23.50 R. M.)

1938 **621 .335 (.43)**

LOTTER (G.).

Die elektrischen Lokomotiven der Deutschen Reichsbahn. 2. Teil : Entwicklungsgeschichte von 1914 bis 1937.

Darmstadt, Arbeitsgemeinschaft Deutsches Lokomotivbild- Archiv und Leipzig, Technische Hochschule und Verkehrswissenschaftliche Lehrmittelgesellschaft, m.b.H. 1 Band. 60 Seiten. 21 Bildtafeln. (Preis : 2.25 R. M.)

1938 **625 .113**

SARRAZIN (O.) & OBERBECK (H.).

Taschenbuch zum Abstecken von Kreisbogen mit und ohne Übergangsbogen.

Berlin, J. Springer. 1 Band. 368 Seiten und 38 Bildern. (Preis : 7.50 R. M.)

In English.

1939 **313 : 385 (.71 + 73)**

Annual Statistical and Outlook Number of RAILWAY AGE (January 7, 1939).

A series of 28 articles divided in three Sections (Railway Outlook, General Review, and Statistics) reviewing railway operation in North America in 1938. — 110 pages, with many illustrations, diagrams & tabulations.

Published by The Simmons-Boardman Publishing Corporation, 30. Church Street, New York (N. Y.). (Price : 50 cents a copy.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress conjointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, p. 1509).

1938 621 .1 & 621 .4
BUTTERFIELD (T. E.), JENNINGS (B. H.) and LUCE (A. W.).
Steam and gas engineering. Third edition.
New York : D. Van Nostrand Co. Cloth (6 × 10 in.), 490 pp., illus., diagrams, charts, tables. (Price : $ 4.50.)

1938 385. (08 (.52)
Department of Railways, Government of Japan.
Annual report for the year ending March 31st, 1937. Published by Authority. 152 pp.

1938 0 & 621 .43
DIERFELD (B. R.).
Motor dictionary. Vol. II. English-French-German. Second edition.
Berlin, W. 8 : Verlag Albert Nauck & Co. (9 3/4 in. × 6 1/2 in.), 261 pp. (Price : Rm. 8 net.)

1938 385. (091 (.42)
GREENLEAF (H.) and HAYDEN (H.).
Britain's Railways.
London : Frederick Muller Ltd., 29, Great James Street, W. C. 1 (8 3/4 in. × 5 1/2 in. × 1 1/4 in.), 232 pp., 53 plates, map, and four diagrams. (Price : 6 s. net.)

1938 721
HANNA (W. S.), TSCHEBOTAREFF (G.) and KHELIFA (M. K.).
Fouad I University. Soil Mechanics and Foundation Research Laboratory. Bulletin No. 1. Results of research work carried for the period 1933-1936.
Cairo : Soil Mechanics and Foundation Laboratory, Fouad I University.

1938 621 .9
HINNAN (C. W.).
Practical **designs for drilling and milling tools.**
New York and London : McGraw-Hill Book Co. Cloth. (6 × 9 in.), 171 pp., illus., diagrams, charts, tables. (Price : $ 2.50.)

1938 62. (02
KEMPE (H. R.) and HANNEFORD-SMITH (W.)
The Engineer's year book of formulae, rules, tables, data and memoranda for 1939. 45th annual issue.
Revised under the direction of L. St. L. Pendred. (Price : £ 1-11-6 net.)

1938 385. (092 (.73)
LEWIS (O.).
The Big Four.
New York and London : Alfred A. Knopf (9 1/2 in. × 6 1/2 in.), Bound in cloth. (Price : $ 4.50.)

1938 621.
LOW (D. A.).
A pocket-book for Mechanical Engineers. Edited B. B. Low. Revised edition.
London : Longmans Green and Company. (Pr 10 s. 6 d. net.)

1938
MOYER (J. A.) and FITTZ (R. U.).
Air conditioning. Second edition.
London : McGraw-Hill Publishing Company, Lim (Price : 24 s.)

1938
One hundred questions and answers about **coal.**
London : Philip Gee. (Price : 3 d.)

1938 385. (08 (
South African Railways and Harbours. Repor the General Manager of Railways and Harbours fo year ended 31st March, 1938.
Published by Authority. 267 pp. Illustrated. (Pr 7 s. 6 d.)

1938 614 .8 (.73) & 621 .3 (
UNITED STATES BUREAU OF STANDARDS.
Handbook No. H 34. **Safety rules for the operatio electric equipment and lines.** Comprising part 4 of fifth edition, National Electrical Safety Code.
Washington : Superintendent of Documents. (Pr 10 cents.)

In Spanish.

1938 313 .385 (
Estadística de los Ferrocarriles Argentinos año 1
Buenos Aires, Instituto de Estudios Económicos Transporte. 1 volumen, 112 páginas.

In Italian.

1938
SANTARELLA (L.).
Il cemento armato. Volume II : **La applicazioni costruzioni civili ed industriali.**
Milano, U. Hoepli. 1 volume, 509 pagine e 443 fig (Prezzo : 42 Lire.)

1938
SANTARELLA (L.).
Prontuario del cemento armato.
Milano, U. Hoepli. 1 volume, 350 pagine. (Prezzo 16.50 Lire.)

016. 385. (05

II. — PERIODICALS.

In French.

Annales des travaux publics de Belgique. (Bruxelles.)

1938 **624 .2**

nales des travaux publics de Belgique, décembre, p. 1045.

RABOZÉE (H.). — Le phénomène de la **flexion transrsale des poutres en bois.** (4 800 mots, tableaux & fig.)

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

1938 **625 .4 (.73)**

ıll. de l'Assoc. française des amis des ch. de fer, décembre, p. 242.

BÉGUE (A.). — Les **Chemins de fer métropolitains** New-York. (2 000 mots & fig.)

1938 **621 .132.3 (.73) & 621 .132.5 (.73)**

ıll. de l'Assoc. française des amis des ch. de fer, décembre, p. 245.

CAIRE (D.). — Les plus **récentes locomotives** conruites par la Société Baldwin. (2 700 mots & fig.)

1938 **625 .232 (.44)**

ıll. de l'Assoc. française des amis des ch. de fer, décembre, p. 252.

Voitures métalliques type rapide de 3e classe C 10 yfi. 00 mots & fig.)

Bulletin de l'Union Internationale des chemins de fer. (Paris.)

1939 **656 .1 (.4)**

ıll. de l'Union intern. des ch. de fer, janvier, p. 19.

La **circulation des automobiles** dans le monde en 37. (1 600 mots.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1938 **385 .63**

ıll. des transp. intern. par ch. de fer, décembre, p. 635.

RABL (F.). — Conversion et cours de conversion lors paiement des **frais de transport.** (5 000 mots.)

1938 **621 .33 (.3)**

ıll. des transp. intern. par ch. de fer, décembre, p. 659.

L'électrification des voies ferrées dans le monde en 37. (900 mots.)

1939 **385 .63 & 656 .24**

Bull. des transp. intern. par ch. de fer, janvier, p. 6.

MARKOVIC (D.). — **Concomitance de perte de la marchandise et de retard à la livraison** dans le trafic international. (3 200 mots.)

1939 **656 (.44)**

Bull. des transp. intern. par ch. de fer, janvier, p. 26.

Les nouveaux décrets sur la **coordination** du rail et de la route en France. (1 000 mots.)

1939 **313 .385 (.492)**

Bull. des transp. intern. par ch. de fer, janvier, p. 33.

Les **Chemins de fer néerlandais** pendant l'exercice 1937. (800 mots.)

La Technique moderne. (Paris.)

1939 **621 .335**

La Technique moderne, n° 1, 1er janvier, p. 40.

Comparaison des **caractéristiques des locomotives électriques** à grande vitesse, à quatre essieux moteurs, en service sur les réseaux allemands à courant monophasé et les réseaux français à courant continu. (1 200 mots.)

Génie civil. (Paris.)

1938 **669**

Génie civil, n° 2941, 24 décembre, p. 537; n° 2942, 31 décembre, p. 566.

GUILLET (L.). — Les **alliages légers** et leur classification. (3 000 mots & tableaux.)

1938 **621 .33 (.44)**

Génie civil, n° 2942, 31 décembre, p. 561.

PARODI. — L'**électrification** des chemins de fer. (Electrification de la ligne Paris-Le Mans.) (6 900 mots.)

1939 **621 .89**

Génie civil, n° 2943, 7 janvier, p. 10; n° 2944, 14 janvier, p. 33.

BRILLIÉ (H.). — Les **frottements fluides** d'extrême intensité, et leurs effets sur les surfaces de portage des coussinets, les ailes d'hélices, etc. (6 000 mots & fig.)

1939 **531**

Génie civil, n° 2944, 14 janvier, p. 35.

SAWIN (N.). — La machine Skoda-Sawin, pour **essais d'usure des métaux.** (1 800 mots & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1938 **656 .234**

L'Ind. des voies ferrées et des transp. autom., novembre, p. 330.

VINCENT. — Le **problème de la perception et du contrôle du prix des places** dans les transports en commun. (2 000 mots & fig.)

L'Ingénieur-Constructeur. (Paris.)

1938 **624 .63 (.44)**

L'Ingénieur-Constructeur, octobre - novembre - décembre, p. 4365.

ISNARD (E.). — **Pont** de Bourganeuf. (4 500 mots & fig.)

1938 **624 .2**

L'Ingénieur-Constructeur, octobre - novembre - décembre, p. 4386.

HO CHING SING. — **Flèche des poutres en béton** armé sous des charges permanentes. (1 000 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1939 **621 .43 (.87)**

L'Ossature métallique, janvier, p. 18.

Automotrices pour le Venezuela. (1 100 mots & fig.)

1939 **625 .142.3**

L'Ossature métallique, janvier, p. 46.

La **traverse métallique** pour voies de chemin de fer. (900 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1939 **385 .63 & 656 .235.7**

Revue générale des chemins de fer, janvier, p. 3.

DOUDRICH. — La convention de 1938 sur le **transport des colis postaux.** (9 700 mots.)

1939 **625 .258 (.44)**

Revue générale des chemins de fer, janvier, p. 18.

BOUVET & CUREAU. — Essais et application des **freins de voie électro-pneumatiques.** Equipement des gares de St-Germain-au-Mont-d'Or et de Chasse. (8 000 mots & fig.)

1939 **656 .253 (.44)**

Revue générale des chemins de fer, janvier, p. 34.

GAILLARD (P.). — L'**éclairage électrique des signaux mécaniques** de la région du Sud-Est de la S. N. C. F. (3 000 mots & fig.)

1939 **621 .132.3 (.44)**

Revue générale des chemins de fer, janvier, p. 47.

Transformation en locomotives type 240 P. O. de 25 locomotives « Pacific ». (700 mots & fig.)

In German.

Die Reichsbahn. (Berlin.)

1938 **656 .222.5 (06 (.4)**

Die Reichsbahn, Heft 52, 28. Dezember, S. 2053.

Die **Europäische Fahrplan- und Wagenbeistellungskonferenz 1938** in Budapest. (4 900 Wörter.)

1939 **385 .113 (.**

Die Reichsbahn, Heft 1, 4. Januar, S. 3.

Die **Deutsche Reichsbahn** im Jahre 1938. (50 Wörter.)

1939 **656 .1 (.**

Die Reichsbahn, Heft 1, 4. Januar, S. 56.

Die **Tätigkeit der Reichsautobahnen** im Geschä jahre 1938. (3 000 Wörter.)

1939 **656 .261 (.**

Die Reichsbahn, Heft 3, 18. Januar, S. 82.

MENZEL. — **Schwerlastbeförderungen auf der Str** im Dienste der Ausfuhr. (2 600 Wörter & Abb.)

Elektrische Bahnen. (Berlin.)

1938 **621 .335 (.43) & 621 .338 (.**

Elektrische Bahnen, Heft 11, November, S. 257.

TASCHINGER (O.). — **Zweiteilige Wechselstr Schnelltriebzüge** für 160 km/h der Deutschen Rei bahn. — I. **Wagenbaulicher Teil.** (7 700 Wörter & A

1938 **621 .335 (.43) & 621 .338 (.**

Elektrische Bahnen, Heft 11, November, S. 267.

MICHEL (O.) & KNIFFLER (A.). — **Zweite Wechselstrom - Schnelltriebzüge** für 160 km/h Deutschen Reichsbahn. — II. **Elektrischer Teil.** (7 Wörter & Abb.)

1938 **621 .**

Elektrische Bahnen, Heft 11, November, S. 280

KLEINOW (W.). — **Achsdruckänderung** an den Co' Lokomotiven E 94 der Deutschen Reichsba (1 200 Wörter & Abb.)

1938 **621 .335 (.**

Elektrische Bahnen, Heft 11, November, S. 283.

WECHMANN (W.) & MICHEL (O.). — **Die Schn zuglokomotive** der Deutschen Reichsbahn, Reihe E für 180 km/h. (1 100 Wörter & Abb.)

1938 **621 .33 (.**

Elektrische Bahnen, Heft 11, November, S. 286.

WERNEKKE. — Die Ausdehnung **elektrischer Z förderung** in England. (1 800 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1938 **621 .1**

Glasers Annalen, Heft 24, 15. Dezember, S. 347.

WITTE (Fr.). — Die Planung neuzeitlicher **triebswerke.** (2 500 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwes (Berlin.)

1939 **625 .2 &**

Organ für die Fortschr. des Eisenbahnw., Heft 1. Januar, S. 1.

TASCHINGER (O.). — Die Grundlagen des **Le baues von Eisenbahnwagen.** (9 000 Wörter & Abb.)

1939 **62.** (06
an für die Fortschr. des Eisenbahnw., Heft 1, 1. Januar, S. 18.
RZYGODE. — **Weltkraftkonferenz**-Teiltagung Wien 3. (1 900 Wörter.)

1939 **62.** (01 & **625** .143
an für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 21.
ERCHTENBREITER. — **Vierte Internationale** ienentagung in Düsseldorf. (1 900 Wörter.)

1939 **625** .143.2
gan für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 23.
KÜHNEL (R.). — Zweckmässige **Abnahmeprüfungen** Schienen. (3 000 Wörter & Abb.)

1939 **625** .143.3
gan für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 27.
KÜHNEL (R.). — Untersuchungen an **Riffelschienen.** 200 Wörter & Abb.)

1939 **621** .392 & **625** .143.4
gan für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 32.
NEMESDY-NEMESEK (J.). — Über einheitliche dingungen für Prüfung und Abnahme **geschweisster** ienenstösse. (3 800 Wörter.)

1939 **621** .392 (.43) & **625** .143.4 (.43)
gan für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 36.
HERWIG. — Die **Schienenstosschweissung** bei der utschen Reichsbahn. (7 700 Wörter & Abb.)

1939 **625** .143.3 (.43)
gan für die Fortschr. des Eisenbahnw., Heft 2, 15. Januar, S. 43.
Die **Schienenbruchstatistik** der Deutschen Reichsbahn. 400 Wörter & Abb.)

Verkehrs-technische Woche. (Berlin.)

1938 **621** .132.7 & **656** .212.5
erkehrs-technische Woche, Heft 48, 30. November, S. 589.
FINDEIS (R.). — Das **Umstellzeug im Verschiebe**enst auf Unterwegsbahnhöfen. (2 500 Wörter).

1938 **621** .13 (.43)
erkehrs-technische Woche, Heft 48, 30. November, S. 592.
MAEY (H.). — **Namengebung für Lokomotiven?** 700 Wörter.)

1938 **656** .225 (.42)
erkehrs-technische Woche, Heft 48, 30. November, S. 594.
WERNEKKE. — Einiges vom **Güterverkehr** der nglischen Eisenbahnen. (2 800 Wörter.)

1938 **625.** (.43) & **656** .1 (.43)
Verkehrs-technische Woche, Heft 49/50, 7/14 Dezember, S. 601.
DOLL (F.). — 3 000 Kilometer **Reichsautobahnen.** (2 400 Wörter & Abb.)

1938 **656** .223.2 (.43)
Verkehrs-technische Woche, Heft 51, 21 Dezember, S. 623.
SCHULTZ. — Die **Güterwagengemeinschaft** zwischen der Deutschen Reichsbahn und den deutschen Privatbahnen. (4 300 Wörter.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1939 **662**
Zeitschr. des Ver. deutsch. Ing., Nr. 1, 7. Januar, S. 25.
LINDNER (W.). — Grundlagen der Prüfung und Bewertung der **flüssigen Kraftstoffe.** (6 300 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **656** .25
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew., 10. Januar, S. 1.
Rückblick auf das Jahr 1938. (3 400 Wörter.)

1939 **656** .257
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew., 10. Januar, S. 4.
EULER (H.). — Die planmässige **Unterhaltung der Freileitungen.** (2 900 Wörter.)

1939 **625** .151 & **656** .257
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew., 10. Januar, S. 7.
GRADL (J.). — **Einzelsicherung von Weichen** gegen Umstellen bei vorzeitiger Fahrstrassenrücknahme. (2 500 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1938 **385** .3 (.494) & **656.** (.494)
Zeitung des Vereins mitteleuropäischer Eisenbahnverw., Nr. 52, 29. Dezember, S. 987.
WANNER (F.). — Neue **Grenzziehung zwischen Staat und Verkehr** in der Schweiz. (5 500 Wörter.)

1938 **621** .132.5 (.43) & **656** .222.6 (.43)
Zeitung des Vereins mitteleuropäischer Eisenbahnverw., Nr. 52, 29. Dezember, S. 993.
WAGNER. — Die **Beschleunigung des Güterzugverkehrs** mittels der Dampf- und der Motorlokomotive. (2 600 Wörter & Abb.)

1938 **621 .43 (.489) & 656 .222.1 (.489)**
Zeitung des Vereins mitteleuropäischer Eisenbahnverw., Nr. 52, 29. Dezember, S. 997.
CHRISTENSEN (H.). — **Schnellverkehr mit Triebwagenzügen** in Dänemark. (3 800 Wörter & Abb.)

1938 **385 .113 (.436)**
Zeitung des Vereins mitteleuropäischer Eisenbahnverw., Nr. 52, 29. Dezember, S. 1002.
Geschäftsbericht der ehemaligen Österreichischen Bundesbahnen für das Jahr 1937. (2 000 Wörter.)

1939 **385. (.4)**
Zeitung des Vereins mitteleuropäischer Eisenbahnverw., Nr. 1, 5. Januar, S. 1; Nr. 2, 12. Januar, S. 31; Nr. 3, 19. Januar, S. 59.
Rückblick auf das Jahr 1938. (68 000 Wörter.) (Fortsetzung folgt.)

In English.

Electrical Industries. (London.)

1939 **621 .31 (.42)**
Electrical Industries, January, p. 7.
Voltage standardisation. (2 400 words.)

1939 **621 .32**
Electrical Industries, January, p. 11.
HARRIS (J. B.). — **Modern lighting.** (1 500 words & fig.)

1939 **313**
Electrical Industries, January, p. 16.
O'DEA (W. T.). — **Statistical methods.** (3 000 words & fig.)

1939 **614 .7 & 621 .39**
Electrical Industries, January, p. 23.
WALKER (R. C.). — **Smoke detection.** (1 900 words & fig.)

Engineer. (London.)

1938 **624 .63 (.42)**
Engineer, No. 4327, December 16, p. 669.
Waterloo **bridge.** (2 000 words & fig.)

1938 **621 .392**
Engineer, No. 4327, December 16, p. 670.
An automatic arc **welding machine.** (1 100 words & fig.)

1938 **656**
Engineer, No. 4327, December 16, p. 683.
BRESSEY (sir Charles). — **Roads and traffic.** Roads and railways contrasted. (3 200 words.)

1938 **385. (091 (.51 +**
Engineer, No. 4328, December 23, p. 692, and No. December 30, p. 725.
MIDDLETON (C. A.). — **The Burma-Yunnan and Railway.** (6 600 words & fig.)

1938 **621**
Engineer, No. 4329, December 30, p. 693.
MILLER (J. L.). — **Spot and projection wel** (3 000 words & fig.)

1938 **6**
Engineer, No. 4329, December 30, p. 695.
High-duty cast irons. (4 400 words.)

1938 **656 .222.1 (**
Engineer, No. 4329, December 30, p. 706.
FISHER (H. S.). — **Acceleration of railway serv** (2 800 words & fig.)

1938
Engineer, No. 4329, December 30, p. 712.
GOLDMAN (B.) and JONES (N. C.). — **The mo portable gas producer.** (4 600 words & fig.)

1938 **62**
Engineer, No. 4329, December 30, p. 720.
ENGEL (F. V.) and DAVIES (A. J.). — **Velo** profiles and flow of fluids through a contracted **line.** (4 000 words & fig.)

1938 **725 .3 (**
Engineer, No. 4329, December 30, p. 732.
Concrete petrol tanks. (1 200 words & fig.)

1938 **621 .33 (**
Engineer, No. 4329, December 30, p. 736.
Railway electrical developments in America. (words.)

1938 **625 .4 (**
Engineer, No. 4329, December 30, p. 737.
Ropeway at Avonmouth. (2 000 words & fig.)

1938 **62**
Engineer, No. 4329, December 30, p. 740.
GOLDMAN (B.) and JONES (N. C.). — The mo **portable gas producer.** (4 800 words & fig.)

1939 **624 &**
Engineer, No. 4330, January 6, p. 4
Roads, bridges and tunnels in 1938. (7 500 w & fig.)

1939 **621 .13 & 62**
Engineer, No. 4330, January 6, p. 12.
Locomotives and trains in 1938. (2 100 words.)

1939 **621**
Engineer, No. 4330, January 6, p. 13 and No. 4331 nuary 13, p. 49.
Oil-engined rail traction in 1938. (11 000 words & (To be continued.)

1939 **621 .3**
gineer, No. 4330, January 6, p. 31 and No. 4331, January 13, p. 64.
lectrical engineering in 1938. (12 500 words & fig.) be continued.)

1939 **626 & 627**
gineer, No. 4330, January 6, p. 34.
Harbours and waterways in 1938. (5 800 words.)

1939 **623.** (.42)
gineer, No. 4330, January 6, p. 70.
Engineering precautions (air raid) Committee. (3 500 rds.) (To be continued.)

1938 **625 .143** (06
e Metallurgist, p. 179, supplt. to the Engineer, December 30.
O'NEILL (H.). — The Dusseldorf **Rail Congress.** 100 words.)

1938 **62.** (01
e Metallurgist, p. 181, supplt. to The Engineer, December 30.
GAYLER (M. L.). — **Ageing.** (6 000 words.)

1938 **669 .1**
e Metallurgist, p. 185, supplt. to The Engineer, December 30.
Niobium-iron and niobium-iron-carbon alloys. (1 900 rds & fig.)

1938 **625 .143.2 (.73) & 625 .143.3 (.73)**
e Metallurgist, p. 189, supplt. to The Engineer, December 30.
Fissures in railroad rails. (1 700 words.)

1938 **669 .1**
e Metallurgist, p. 190, supplt. to The Engineer, December 30.
Iron-titanium-carbon alloys. (1 600 words & fig.)

Engineering. (London.)

1938 **651.** (.42) **& 656 .212.7** (.42)
gineering, No. 3805, December 16, p. 698.
LEE (sir George). — **Mechanical equipment; Mount easant Sorting Office, General Post Office.** (2 000 rds & fig.)

1938 **621 .43** (.82)
gineering, No. 3805, December 16, p. 703.
Articulated railcars for the Argentine State Railways. 800 words & fig.)

1938 **01**
gineering, No. 3805, December 16, p. 707.
The evaluation of technical periodicals. (2 200 words.)

1938 **621.** (06 (∞) **& 621 .331**
Engineering, No. 3805, December 16, p 709 and No. 3807, December 30, p. 755.
The Vienna sectional meeting of the world power **conference.** (6 000 words.)

1938 **621 .94**
Engineering, No. 3805, December 16, p. 714.
5/8-in. four-operation **high-speed automatic lathe.** (700 words & fig.)

1938 **62.** (01 **& 621 .7**
Engineering, No. 3805, December 16, p. 715.
THORNTON (B. M.) and THORNTON (W. M.). — **Measurement of the thickness of metal walls** from one surface only. (4 000 words & fig.)

1938 **625 .251**
Engineering, No. 3805, December 16, p. 719.
The friction of **railway brake blocks.** (1 600 words.)

1938 **621 .8**
Engineering, No. 3806, December 23, p. 729.
The « P. K. » variable speed friction drive. (700 words.)

1938 **623 & 656 .1**
Engineering, No. 3806, December 23, p. 737.
Wartime road transport. (2 600 words.)

1938 **621 .9 & 625 .26**
Engineering, No. 3806, December 23, p. 745.
Double-end tenoning machine for railway coachwork. (1 700 words & fig.)

1938 **621.** (06 (.42) **& 669 .1**
Engineering, No. 3806, December 23, p. 745.
High duty cast-irons for general engineering purposes. (6 200 words & fig.)

1938 **621 .95** (.42)
Engineering, No. 3806, December 23, p. 748.
1/4-in. **portable electric drill.** (600 words & fig.)

1938 **621 .43** (.82)
Engineering, No. 3807, December 30, p. 756.
Articulated railcars for the Argentine State Railways. (1 300 words & fig.)

1938 **621 .43** (.42)
Engineering, No. 3807, December 30, p. 772.
78-b.h.p. **oil shunting locomotive.** (1 100 words & fig.)

1938 **62.** (01 **& 621 .88**
Engineering, No. 3807, December 30, p. 773.
Fatigue tests of riveted joints. (2 800 words.)

1938 **621 .9**
Engineering, No. 3807, December 30, p. 774.
Thread-cutting attachment for B. S. A. automatic **screw machines.** (1 000 words & fig.)

1939 **621 .43 & 662**
Engineering, No. 3808, January 6, p. 1.
RIFFKIN (J.). — The **ignition quality of diesel fuels.** (5 500 words & fig.)

1939 **621 .9 & 721 .1**
Engineering, No. 3808, January 6, p. 7.
The **Calyx core drill** for shaft sinking. (1 400 words & fig.)

1939 **656 .283 (.42)**
Engineering, No. 3808, January 6, p. 11.
Railway collision at York. (700 words.)

1939 **656 .222.1**
Engineering, No. 3808, January 6, p. 16.
The **acceleration of railway** passenger services. (1 900 words.)

1939 **621 .86 & 621 .87**
Engineering, No. 3808, January 6, p. 23.
EGAN (A. L.). — The **reduction of dynamic stresses in winding ropes.** (2 500 words & fig.)

1939 **621 .116**
Engineering, No. 3808, January 6, p. 25 and No. 3809, January 13, p. 53.
VANDUZER (R. M.) and McCUTCHAN (A.). — **High temperature steam experience** at Detroit. (9 700 words & fig.)

1939 **621 .392**
Engineering, No. 3808, January 6, p. 28.
Automatic arc-welding machine for boiler drums. (1 300 words & fig.)

1939 **621 .31**
Engineering, No. 3809, January 13, p. 33.
RISSIK (H.). — The future of **alternating-current power transmission.** (3 300 words & fig.)

1939 **625 .156 (.42)**
Engineering, No. 3809, January 13, p. 35.
Tension-type buffer stops at Aldgate East Station. (700 words & fig.)

1939 **625 .23 (.42 + .73)**
Engineering, No. 3809, January 13, p. 38.
Visit of the « Coronation Scot » to the United States. (1 500 words & fig.)

1939 **623. (.42)**
Engineering, No. 3809, January 13, p. 50.
Engineering precautions against air raids. (1 500 words.)

Engineering News-Record. (New York.)

1938 **62. (01 & 725 .33**
Engineering News Record, No. 24, December 15, p. 767.
CARDER (D. S.). — **Vibrations in concrete water tanks.** (1 400 words & fig.)

1938 **625 .1 (0**
Engineering News Record, No. 25, December 22, p.
Iran builds a railroad. Ancient Persia finishes its ject from the Caspian Sea to the Persian Gulf. words & fig.)

1938 **385 .1 (**
Engineering News Record, No. 26, December 29, p.
Help for the railroads. (900 words.)

1938
Engineering News Record, No. 26, December 29, p.
WEYMOUTH (C. A. G.). — **Designing workable** crete. (3 400 words & fig.)

1939 **625 .13 (**
Engineering News-Record, No. 1, January 5, p. 36
New bearings for an old bridge. (300 words &

Journal, Institute of Transport. (London.)

1939
Journal, Institute of Transport, No. 3, January, p.
LUMLEY (D. O.). — **The development of air n**
(5 000 words & fig.)

1939 **656 .259 (**
Journal, Institute of Transport, No. 23, January, p.
MASON (E. H.). — **Fog traffic working.** (3
words.)

Journal, Institution of Civil Engineers. (London.)

1939 **625 .2 (0 & 625**
Journal, Institution of Civil Engineers, No. 3, Janu p. (30).
Some experiments on the **lateral oscillation of** way vehicles. (800 words.)

1939 **625 .2**
Journal, Institution of Civil Engineers, No. 3, Janu p. (32).
The vertical path of a wheel moving along a way track. (1 400 words.)

1939 **624. (.4**
Journal, Institution of Civil Engineers, No. 3, Janu p. (35).
« **The Storstrom Bridge,** Denmark ». (800 words.)

Journal, Institution of Engineers, Australi (Sydney, N. S. W.)

1938 **621 .134.1 & 621**
Journal, Institution of Engineers, Australia, No. November, p. 393.
Transmission of torque by keys and keyways. (1 words & fig.)

1938 **621 .31**
rnal, Institution of Engineers, Australia, No. 11, November, p. 405.
Value of electrical losses in transmission and distri-tion. (8 000 words & fig.)

1938 **526**
rnal, Institution of Engineers, Australia, No. 11, November, p. 413.
CRAWFORD (D. A.). — **Aerial photographic survey-**. (3 800 words & fig.)

London & North Eastern Railway Magazine. (London.)

1939 **656 .257 (.42)**
ndon & North Eastern Railway Magazine, January, p. 26.
Power signalling at Edinburgh. (1 000 words & fig.)

1939 **385 .1 (.42)**
ndon & North Eastern Railway Magazine, January, p. 32.
The « Square Deal » campaign. (900 words & fig.)

Modern Transport. (London.)

1938 **656 .223.2 (.42)**
dern Transport, No. 1031, December 17, p. 2.
Private owners' wagons. (1 200 words.)

1938 **621 .13 (0 & 621 .131 (.43)**
dern Transport, No. 1031, December 17, p. 3.
Streamlining of steam locomotives. Tests confirm wer economies. (1 400 words & fig.)

1938 **347 .763 (.42) & 656 .1 (.42)**
dern Transport, No. 1031, December 17, p. 5; No. 1032. December 24, p. 4 and No. 1033, December 31, p. 10.
ROBINSON (G. E.). — **Road transport control** in eat Britain. (6 000 words.)

1938 **385 .4 (.44)**
dern Transport, No. 1031, December 17, p. 7 and No. 1033, December 31, p. 13.
CAZENAVE (Ch. R.). — **Organisation of French ilways.** (3 400 words.)

1938 **656 .222.1 (.42)**
dern Transport, No. 1031, December 17, p. 9.
FISHER (S. H.). — **Acceleration of railway services.** 000 words.)

1938 **625 .13 (.42) & 625 .4 (.42)**
dern Transport, No. 1032. December 24, p. 3.
Steam locomotives of London Underground. (1 500 rds & fig.)

1938 **656 .222.1**
Modern Transport, No. 1032, December 24, p. 5.
FISHER (S. H.). — **High-speed trains.** Operational and commercial aspects. (2 100 words.)

1938 **621 .33 (.42)**
Modern Transport, No. 1033, December 31, p. 3.
Electric traction on the Southern Railway. Extension to Reading. I. **Current supply and distribution.** (1 600 words & fig.)

1938 **385. (08 (.42)**
Modern Transport, No. 1033, December 31, p. 9.
Progress in 1938. (Figures.)

1939 **388. (.44)**
Modern Transport, No. 1034, January 7, p. 3.
Transport services in Paris. (1 700 words & tables.)

1939 **385 .4 (.44)**
Modern Transport, No. 1034, January 7, p. 4.
CAZENAVE (Ch. R.). — **Organisation of French Railways.** (2 000 words.)

1939 **621 .33 (.42)**
Modern Transport, No. 1034, January 7, p. 5.
Electric traction on the Southern Railway.)1 400 words & fig.)

1939 **347 .763 (.42) & 656 .1 (.42)**
Modern Transport, No. 1034. January 7, p. 13.
ROBINSON (G. E.). — **Road transport control** in Great Britain. (3 200 words.)

1939 **625 .235 & 656 .28**
Modern Transport, No. 1034, January 7, p. 14.
Glass in railway carriages. (400 words.)

1939 **656. (.42)**
Modern Transport, No. 1035, January 14, p. 3.
McLAGAN (Lt. Col. D. C.). — **Restrictions should now be abolished.** Railway proposals pave the way. (1 800 words.)

1939 **385 .13 (.42)**
Modern Transport, No. 1035, January 14, p. 4.
Transport organisation. Railway companies could save £ 30 000 000. (900 words.)

1939 **625 .232 (.42 + .73)**
Modern Transport, No. 1035, January 14, p. 5.
L. M. S. Coronation Scot for U. S. A. exhibition and tour. (5 200 words & fig.)

1939 **656. (.42)**
Modern Transport, No. 1035, January 14, p. 9.
REDMAN (Col. A. S.). — **Passenger transport by road.** Relationship to railway services. (2 000 words.)

Proceedings, American Society of Civil Engineers. (New York.)

1938 **62. (01, 624 & 72**
Proc., Amer. Soc. Civil, Eng., No. 10, December, p. 1993.
HOSKINS (L. M.) and GALLOWAY (J. D.). — **Earthquakes and structures.** (13 000 words & fig.)

1938 **388**
Proc., Amer. Soc. Civil, Eng., No. 10, December, p. 2033.
REEDER (E. J.). — **Traffic problems in metropolitan areas.** (4 500 words.)

Railway Age. (New York.)

1938 **621 .392 (.73) & 625 .241 (.73)**
Railway Age, No. 25, December 17, p. 872.
Milwaukee **all-welded flat cars.** (1 500 words & fig.)

1938 **725 .35 (.73)**
Railway Age, No. 25, December 17, p. 874.
New Union Pacific **storehouse** has effective features. (1 700 words & fig.)

1938 **62. (01 & 625 .23 (0**
Railway Age, No. 25, December 17, p. 878.
Collision effects on lightweight coaches. (3 400 words.)

1938 **625 .27 (.73)**
Railway Age, No. 25, December 17, p. 881.
Rock Island junks old equipment. (3 200 words & fig.)

1938 **385 .589**
Railway Age, No. 25, December 17, p. 885.
NEUMUELLER (Dr. J. F.). — **Night blindness.** (700 words.)

1938 **621 .132.3 (.73)**
Railway Age, No. 26, December 24, p. 908.
High capacity **4-8-4 type passenger locomotives** for the Atlantic Coast Line trains **develop 63 900 lb. tractive force.** (1 800 words & fig.)

1938 **625 .143 & 625 .25**
Railway Age, No. 26, December 24, p. 911.
Baltimore & Ohio develops facts on **causes of driver burns.** (1 100 words & fig.)

1938 **656 .257 (.73)**
Railway Age, No. 26, December 24, p. 913.
BUNNELL (E. H.). — **Controlling maintenance outlays.** (4 000 words.)

1938 **621 .132.8 (.73) & 621 .335 (.73)**
Railway Age, No. 26, December 24, p. 916.
Union Pacific's **steam-electric locomotive.** (3 200 words & fig.)

1938 **385 .1 (.73)**
Railway Age, No. 27, December 31, p. 944.
Report of Committee-of-six. (3 500 words.)

1938 **625 .13 (.**
Railway Age, No. 27, December 31, p. 947.
Installing **under-grade bridges** on heavy-traffic l
(3 300 words & fig.)

1938 **656 .223.2 (.**
Railway Age, No. 27, December 31, p. 952.
Efficient use of cars. (3 400 words & fig.)

1938 **621 .43 (.**
Railway Age, No. 27, December 31, p. 955.
Jersey Central installs **diesel-electric switchers.**
words & fig.)

1938 **656 .261 (.**
Railway Age, No. 27, December 31, p. 956.
Rock Island organizes extensive **truck lines.** (1
words & fig.)

1938 **625 .215 (.**
Railway Age, No. 27, December 31, p. 958.
Improved **Barber truck.** (700 words & fig.)

Railway Gazette. (London.)

1938 **625 .29 (**
Railway Gazette, No. 25, December 16, p. 1033.
Hammock sleepers. (200 words & fig.)

1938 **621 .392 (.42) & 624 (**
Railway Gazette, No. 25, December 16, p. 1043.
All-welded underbridge in West London. (600 w
& fig.)

1938 **656 .1 (**
Railway Gazette, No. 25, December 16, p. 1046.
Successful **replacement of light railways.** (900 wo

1938 **656. (**
Railway Gazette, No. 25, December 16, p. 1048.
ARTHURTON (A. W.). — **Rail and road comp**
tion in Australia. (1 200 words.)

1938 **656**
Railway Gazette, No. 25, December 16, p. 1049.
SHEARMAN (J.). — **Road motors** for short-mil
work — II. (3 300 words & fig.)

1938 **656 .261 (**
Railway Gazette, No. 25, December 16, p. 1053.
MEARA (L.). — **Cartage** in Southern Scotland. (
words & fig.)

1938 **656 .222.1 (**
Railway Gazette, No. 25, December 16, p. 1062.
Acceleration of train services. (2 000 words.)

1938 **656 .2**
Railway Gazette, No. 26, December 23, p. 1080.
Train describers. (1 100 words.)

1938 385
ilway Gazette, No. 26, December 23, p. 1087.
The feature of the railway in a national transport stem. (3 500 words.)

1938 656 .256.3 (.44)
ilway Gazette, No. 26, December 23, p. 1090.
Automatic signalling in France. (2 200 words & fig.)

1938 385. (06 (.54)
ilway Gazette, No. 26, December 23, p. 1103.
Indian Railway Conference Association, 1938 Session. Subjects emphasised included advertising by and railways, incivility and corruption, obligations to the blic, safety and road transport. (1 400 words.)

1938 385. (08
ilway Gazette, No. 27, December 30, p. 1135.
A pictorial retrospect of 1938. (Figures.)

1938 621 .392 (.43)
ilway Gazette, No. 27, December 30, p. 1153.
The welding of German high tensile steels. (400 rds.)

1939 621 .132.8 (.73) & 621 .335 (.73)
ilway Gazette, No. 1, January 6, p. 11.
BEARCE (W. D.). — New American 5 000 h.p. turbo-ctric condensing locomotive. (3 100 words & fig.)

1939 625 .243 (.68)
ilway Gazette, No. 1, January 6, p. 16.
Wagons for South Africa. (400 words & fig.)

1939 385. (092
ilway Gazette, No. 1, January 6, p. 17.
KING (G. J. S.). — Railway personalities of 1839. 000 words.)

1939 385 .59 (.42) & 656 .29 (.42)
ilway Gazette, No. 1, January 6, p. 18.
Sixty years of first aid on the railways. (1 400 rds.)

1939 656 .256.3 (.931)
ilway Gazette, No. 1, January 6, p. 19.
Automatic signalling in New Zealand. (400 words.)

1939 385 .586 (.42) & 623 (.42)
ilway Gazette, No. 1, January 6, p. 20.
The Railway training centre, R. E., Longmoor. (1 400 rds & fig.)

1939 625 .23 (.43)
ilway Gazette, No. 1, January 6, p. 25.
Rail links in a passenger-carrying canal. (200 words fig.)

1939 625 .232 (.42 + .73)
ilway Gazette, No. 2, January 13, p. 51.
New Coronation Scot train for U. S. A. visit. (2 600 rds & fig.)

1939 388. (.42)
Railway Gazette, No. 2, January 13, p. 61.
The Vauxhall cross improvement. (1 600 words & fig.)

1939 625 .162 & 656 .259
Railway Gazette, No. 2, January 13, p. 64.
Level crossings. (1 300 words.)

1939 656 .1 (.42)
Railway Gazette, No. 2, January 13, p. 65.
The Great Western Railway Road Transport Department in 1938. (1 200 words & fig.)

1939 621 .33 (.82)
Railway Gazette, No. 2, January 13, p. 67.
ROCHET (M.). — New tramcar for Buenos Aires transport. (900 words & fig.)

1939 656 .1 (.73)
Railway Gazette, No. 2, January 13, p. 69.
Santa Fe co-ordinated road-rail services. (500 words & fig.)

1939 385. (06 (.42)
Railway Gazette, No. 2, January 13, p. 74.
The work of the Railway Clearing House. (1 500 words.)

1939 656
Railway Gazette, No. 2, January 13, p. 75.
Road passenger transport in relation to railway services. (1 000 words.)

1939 385 .15 (.82)
Railway Gazette, No. 2, January 13, p. 76.
Purchase of Cordoba Central Railway. (1 100 words.)

1938 621 .43 (.44) & 656 .222.1 (.44)
Diesel Railway Traction, p. 1112, supplt. to the Railway Gazette, December 23.
Express railcar services in the Eastern Region of France. (2 200 words & fig.)

1938 621 .43
Diesel Railway Traction, p. 1116, supplt. to the Railway Gazette, December 23.
Some notes on engine mounting. (2 600 words & fig.)

1938 621 .43 (.81) & 625 .232 (.81)
Diesel Railway Traction, p. 1122, supplt. to the Railway Gazette, December 23.
Dining car diesel trains for South America. (1 400 words & fig.)

1938 621 .13 (.73) & 621 .43 (.73)
Diesel Railway Traction, p. 1124, supplt. to the Railway Gazette, December 23.
CHAPMAN (E. E.). — Diesel locomotives in high-speed service. (1 800 words.)

1938 **621 .43 (.43)**
Diesel Railway Traction, p. 1126, supplt. to the Railway Gazette. December 23.
Light-weight railcars. (1 000 words & fig.)

1939 **621 .33 (.42)**
Electric Railway Traction, p. 2, supplt. to the Railway Gazette, January 6.
Southern electrification to Reading. (2 600 words & fig.)

1939 **621 .338 (.494)**
Electric Railway Traction, p. 6, supplt. to the Railway Gazette, January 6.
New electric motor-coach service in Switzerland. (700 words & fig.)

Railway Magazine. (London.)

1939 **656 .222.1 (.42)**
Railway Magazine, No. 499, January, p. 14.
ALLEN (C. J.). — **British locomotive practice and performance.** (4 800 words & fig.)

1939 **385. (091 (.42)**
Railway Magazine, No. 499, January, p. 27.
NOCK (O. S.). — **The Highland main line — I.** (3 700 words & fig.)

1939 **625 .4 (.42)**
Railway Magazine, No. 499, January, p. 35.
ELLIS (C. H.). — The Glasgow **underground lines. III** — The City & District, L. N. E. R. (2 200 words & fig.)

1939 **625 .113 (.44)**
Railway Magazine, No. 499, January, p. 50.
The **main-line gradients of French Railways** — III. (600 words.)

Railway Signaling. (Chicago.)

1939 **313 : 656 .25 (.73)**
Railway Signaling, January, p. 19.
Signaling construction decreased in 1938. (2 200 words, tables & fig.)

1939 **656 .253 (.73)**
Railway Signaling, January, p. 25.
ZANE (W. F.). — **Burlington replaces semaphores with color-lights.** (2 700 words & fig.)

1939 **656 .257 (.73)**
Railway Signaling, January, p. 28.
Erie installs **electric interlocking.** (3 400 words & fig.)

1939 **656 .257 (.73)**
Railway Signaling, January, p. 36.
Remote control at Devon, W. Va., on Norfolk & Western. (1 900 words & fig.)

The Locomotive. (London.)

1939 **621 .43 (.**
The Locomotive, No. 557, January 14, p. 3.
The Rock Island Rockets. (1 000 words & fig.)

1939 **62. (01 & 621**
The Locomotive, No. 557, January 14, p. 4.
Institution of Locomotive Engineers. **Wear resist. of ferrous metal.** (2 800 words.)

1939 **621 .13**
The Locomotive, No. 557, January 14, p. 6.
PHILLIPSON (E. A.). — **The steam locomotiv traffic.** (400 words & fig.) (To be continued.)

1939 **62. (01 (.73) & 621 .138.5 (**
The Locomotive, No. 557, January 14, p. 13.
McBRAIN (R.). — **The Magnaflux method of tes** and inspection. (1 300 words & fig.)

1939 **621 .43 & 62**
The Locomotive, No. 557, January 14, p. 21.
KOFFMANN (J. L.). — **Railcar operation at altitudes.** (1 300 words & fig.)

1939 **621 .134.2 & 621 .1**
The Locomotive, No. 557, January 14, p. 24.
Some improved locomotive valve gears. (1 800 w & fig.)

1939 **625 .**
The Locomotive, No. 557, January 14, p. 26.
SANDERS (L. I.). — **Carriage and wagon design construction.** (600 words & fig.)

The Oil Engine. (London.)

1939 **621 .43 (.42) & 656 .1 (**
The Oil Engine, No. 69, January, p. 270.
Diesel engines for road vehicles. (1 700 words &

1939 **621 .43 (**
The Oil Engine, No. 69, January, p. 274.
Diesel rail traction in 1938. More and higher-pow express trains. The advance of fluid transmis (2 500 words & fig.)

1939 **621**
The Oil Engine, No. 69, January, p. 278.
Technical tendencies in **oil engine design.** (4 400 w & fig.)

1939 **621**
The Oil Engine, No. 69, January, p. 290.
Diesel Engine Users Association **working costs port (1937-38).** The results obtained in 75 electr generating stations at home and abroad. (1 200 w & 1 table.)

In Spanish.

ɛtín de la Asociación internacional permanente ɛl Congreso Sudamericano de ferrocarriles. (Buenos Aires.)

)38 **656**
ɛtín de la Asoc. intern. perm. del Congreso Sudame- ric. de ferrocar., diciembre, p. 13.
ALTA (J.). — **Ferrocarriles y carreteras.** (6 000 bras.)

)38 **385 .4 (.44)**
ɛtín de la Asoc. intern. perm. del Congreso Sudame- ric. de ferrocar., diciembre, p. 27.
ARCAVI (G.). — Evolución del **régimen admi- rativo** de los ferrocarriles franceses en los siglos ɛ y XX. (6 000 palabras.)

)38 **656 .23 (.82)**
ɛtín de la Asoc. intern. perm. del Congreso Sudame- ric. de ferrocar., diciembre, p. 47.
l **tráfico** de los ferrocarriles argentinos. (1 500 pa- as.)

In Italian.

Annali dei lavori pubblici. (Roma.)

938 **625 .1 (.45)**
ıali dei lavori pubblici, settembre, p. 49.
a **nuova ferrovia** Vittorio Veneto-Ponte nelle Alpi. 00 parole & fig.)

L'Ingegnere. (Roma.)

938 **62. (01 & 624 .63**
ıgegnere, 15 dicembre, p. 864.
ASSI (G.). — Elementi deformabili negli **archi in ıento armato** per costruzioni coloniali. (1 600 parole ig.)

938 **62. (01 & 669**
ngegnere, 15 dicembre, p. 868.
UZZONI (G.). — La **corrosione dei metalli** e l'in- olimento delle strutture. (1 700 parole & fig.)

ivista tecnica delle ferrovie italiane. (Roma.)

938 **625 .142.2 (.45)**
ista tecnica delle ferrovie ital., 15 dicembre, p. 327.
REAZZANO (A.). — Sulla possibilità di rendere ficiente l'olio di catrame minerale di produzione ionale alla conservazione delle **traverse di legno** delle rovie dello Stato. (4 700 parole & 5 quadri.)

1938 **621 .13 (.45)**
Rivista tecnica delle ferrovie ital., 15 dicembre, p. 342.
JACOMETTI (J.). — I progressi della **trazione a vapore** italiana agli effetti dell'autarchia. (5 600 parole.)

1938 **656 .256 (.45)**
Rivista tecnica delle ferrovie ital., 15 dicembre, p. 353.
BELLOMI (C.). — Il **relé unitario** tipo F. S. per gli impianti di segnalamento. (11 000 parole, 16 quadri & fig.)

Trasporti e lavori pubblici. (Roma.)

1938 **656 .222.1 (.45)**
Trasporti e lavori pubblici, novembre, p. 234.
Le **velocitá ferroviarie** e la posizione dell'Italia. (2 300 parole & fig.)

1938 **625 .232 (.45)**
Trasporti e lavori pubblici, novembre, p. 336.
Letti a buon mercato in terza classe. (400 parole & fig.)

In Dutch.

De Ingenieur. (Den Haag.)

1938 **62. (01 & 691**
De Ingenieur, Nr 50, 16 December, p. Mk. 57.
de SY (A. L.). — Verloop van de **interkristal-corrosie** bij 18/8 stalen. (2 490 woorden & fig.)

1938 **625 .13 (.492)**
De Ingenieur, Nr 51, 23 December, p. B. 235.
BARDET (J. D. M.). — De in uitvoering zijnde **spoorwegwerken** Amsterdam-Oost. (4 500 woorden & fig.)

1938 **656 .281**
De Ingenieur, Nr 52, 30 December, p. A. 526.
Derailleerproeven der Zuid-Afrikaansche spoorwegen. (500 woorden & fig.)

1939 **62. (01 & 691**
De Ingenieur, Nr 1, 6 Januari, p. Bt. 1.
BENDEL (L.). — Grundlagen um **gleichmässig beschaffenen Beton** zu erhalten. (6 000 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

1938 **621 .13 (09 (.492)**
Spoor- en Tramwegen, Nr 26, 20 December, p. 637.
BARDET (D. M.). — Over de **oudste locomotieven** in Nederland. (3 800 woorden & fig.)

1938 **625 .24 (.492)**
Spoor- en Tramwegen, Nr 26, 20 December, p. 642.
BOLLEMAN KLILSTRA (E.). — **Nieuw goederenmaterieel** der Nederlandsche Spoorwegen. (300 woorden & fig.)

1939 624 .8 (.492)
Spoor- en Tramwegen, Nr 1, 3 Januari, p. 1.
DE BRUINE (J.). — **De spoorweg-bascule-brug** te Vlake. (2 600 woorden & fig.)

1939 385
Spoor- en Tramwegen, Nr 2, 17 Januari, p. 27.
WESTENDORP (F.). — **De toekomst der ijzeren wegen.** (3 700 woorden.)

1939 621 .33 (.42)
Spoor- en Tramwegen, Nr 2, 17 Januari, p. 31.
Electrificatie van de Southern Railway. (1 900 woorden & fig.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa).

1938 385. (09.3 (.438) = **91** .885
Inzynier Kolejowy, N° 11, p. 444.
HUMMEL (B.). — **The beginning of the Polish railways.** (4 500 words.)

1938 625 .143 = **91** .885 & **621** .392 = **91** .885
Inzynier Kolejowy, N° 11, p. 453.
SWIDA (S.). — **Long welded rails.** (6 600 words & fig.)

1938 656 .223 = **91** .885
Inzynier Kolejowy, N° 12, p. 476.
SWIESCIAKOWSKI (T.). — **The rolling stock establishment** of the railways. (6 000 words & tables.)

1938 621 .131 = **91** .885
Inzynier Kolejowy, N° 12, p. 488.
LANGROD (A.). — **A universal locomotive** as conceived by J. Madeyski, Engineer. (3 000 words.)

1938 625 .142.2 = **91** .885
Inzynier Kolejowy, N° 12, p. 501.
CHOJECKI (M.). — **Preservation of beach sleepers** by the present-day treatment process. (7 300 words & fig.)

In Portuguese.

Gazeta dos caminhos de ferro. (Lisboa.)

1939 385. (
Gazeta dos Caminhos de Ferro, 1 de janeiro, p. 1
FERNANDO DE SOUZA (J.). — O ano de 193
nossos **caminhos de ferro.** (1 200 palavras.)

1939 656
Gazeta dos Caminhos de Ferro, 1 de janeiro, p. 2
GALLO (Jayme). — **Os caminhos de ferro e a** d
nacional. (900 palavras & fig.)

1939 385. (09 (
Gazeta dos Caminhos de Ferro, 1 de janeiro, p. 2
FREITAS (G. de). — Os **caminhos de ferro** na
coslováquia. (1 800 palavras & fig.)

In Rumanian.

=

Revista tecnica C. F. R. (Bucuresti.)

1938 621 .43 = 599 & 662 =
Revista C. F. R., N° 7-8, p. 183.
STAMBULEANU (A.). — The use of mazo
diesel engines. (5 600 words & fig.)

1938 385 .1 (.498) = 599, 621 .139 (.498) =
& 625 .27 (.498) =
Revista C. F. R., N. 7-8, p. 200.
CHIBELEANU (Tr.). — **Budgetary control i**
Rumanian railway workshops. (6 000 words.)

1938 385 .524 (.498) =
Revista C. F. R., N° 7-8, p. 216.
CAZACU (C. N.). — A new method of calcu
mileage premiums. (2 700 words.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

APRIL 1939

016. 385. (02]

I. — BOOKS.

In French.

939 62. (02

genda Béranger 1939.

aris et Liége. Librairie Polytechnique Ch. Béranger. arnet de poche (14 × 9 cm.), 162 pages. (Prix : fr. français.)

939 385. (02

nnuaire 1938-39 des Chambres syndicales des Conucteurs de matériel roulant de Chemin de fer. et des ustries annexes de la Construction de Matériel de min de fer.

aris (8e), Siège social des susdites Chambres, 7, rue Madrid. 1 volume. 500 pages. (Prix : 70 fr. français.)

939 624 .9

RBEROT (E.), architecte.

raité pratique de charpente, 2e édition.

aris, Béranger. 1 volume. 647 pages et 1 395 figures. ix : 165 fr. français.)

938 656

oordination des transports.

enève, Organisation des communications et du Trande la Société des Nations. 1 volume. 348 pages.

939 621 .165

AFT (E. A.).

a turbine à vapeur moderne. — Traduction de la xième édition allemande.

aris (6e), Dunod. 1 volume. 283 pages et 245 figures. ix : 115 fr. français.)

939 624. (06

Mémoires de l'Association internationale des Ponts et rpentes.

urich. Leemann Frères et Cie. 1 volume. 422 pages et res. (Prix : 30 fr. suisses.)

In German.

938 728 .9

NST (E.).

berflächenbehandlung unverkleideter Beton- und Eibetonbauten.

erlin, Wilhelm Ernst & Sohn. 1 Heft, 25 Seiten und Abbildungen. (Preis : 1.60 R. M.)

1938 62. (03

FREEMAN (H. G.).

Das englische Fachwort.

Essen, W. Girardet. 1 Band, 176 Seiten. (Preis : 5.80 R. M.)

1938 621 .335 (.43)

LOTTER (G.).

Die elektrischen Lokomotiven der Deutschen Reichsbahn.

Leipzig, Technische Hochschule, und Verkehrswissenschaftliche Lehrmittelgesellschaft m. b. H. 1 Band.

1938 656 .253 (.43)

Signale und Kennzeichen der Reichsbahn.

Leipzig, Verkehrswissenschaftliche Lehrmittel G. m. b. H. 1 Band. 117 Seiten und 166 Abbildungen. (Preis : 1.10 R. M.)

1939 721. (02

UNOLD (G.), Dr.-Ingenieur.

Stahlbau-Kalender 1939.

Berlin, Wilhelm Ernst und Sohn. 1 Band, 1 188 Textabbildungen.

In English.

1939 3. (06 (.73

Annals of the American Academy of Political and Social Science. January. — **Ownership and regulation of public utilities.** Attacking the problem of satisfactory management of public utilities in the public interest. (A series of 28 articles.)

Philadelphia, Pa. : The American Academy of Political and Social Science, 3457, Walnut street. 295 pp.

1939 621 .137 & 621 .138

HODGSON (J. T.) and WILLIAMS (J.).

Locomotive management : cleaning — driving — maintenance. 7th edition.

London : St. Margaret's Technical Press Limited. 33, Tothill Street, S. W. 1. (8 1/2 in. × 5 1/2 in. × 1 in.), 492 pp. + XII pp. Profusely illustrated. (Price : 6 sh. net.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 1509).

1939 **621 .392**

INSTITUTE OF WELDING.

Handbook for welded structural steelwork.

London : Offices of the Institute. (Price : 5 sh. net.)

1938 **62. (01 & 669 .4**

Investigation of creep and fracture of lead and lead alloys for cable sheathing. (Bulletin No. 306, August 19.)

Urbana, Ill : University of Illinois. 92 pp. (Price : one dollar.)

1939 **529. (06**

Journal of Calendar Reform. Volume VIII (1938). A series of original articles, press reviews and editorial comment in connection with calendar reform.

New York : published by the World Calendar Association, Inc., International Building, 630 Fifth Avenue. 250 pages (8 1/2 in. × 6 in.), cloth bound. (No price stated.)

1939 **665 .882**

KEHL (R. G.).

Oxy-acetylene welding.

London : Technical Press, 5, Ave Maria Lane, E. C. 4. (Price : 7 sh. 6 d. net.)

1938 **385. (09 (.47)**

Latvijas Dzelzceli (« The Railways of Latvia »), 1918-1938.

Riga : Issued under the authority of the General Manager of the Latvian State Railways. 518 pages, 10 3/4 in. × 8 in. 191 half tone illustrations in the text. 12 plates. 60 maps & diagrams.

1939 **697**

OVERTON (L. J.).

Heating and ventilating.

Manchester : The Sutherland Publishing Company Ltd.

1939 **693. (02 (.73) & 721 .9 (.73)**

PAGE (Lt. Col. V.).

Airplane servicing manual.

London : Sir Isaac Pitman and Sons, Ltd. (Price : 25 sh. net.)

1939 **621 .116 (06 (.**

Proceedings, Master Boiler Makers' Association.

Albany, N. Y. : Albert F. Stiglmeier, 29, Parkw street. (Price : 3 dollars.)

1939 **62.**

SKERRY (E.).

Testing of metallic materials.

London : Bunhill Publications, Ltd. 2, Bloomsb Place, W. C. 1. (Price : 3 sh. 6 d. net.)

1938

Summer cooling in the warm-air heating resea residence with cold water. (Bulletin No. 305, August 1

Urbana, Ill. : University of Illinois. 92 pp. (Pri 90 cents.)

1939 **313 : 388.**

Transit Journal, annual statistical number. January

New York : McGraw-Hill Publishing Company, (Price : one dollar.)

1938 **621 .13 (02 (.**

WRIGHT (R. V.) and AUGUR (R. C.).

Locomotive Cyclopedia.

New York : Simmons-Boardman Publishing Corp., Church street. 1 232 pages (9 in. × 12 in.). Over 2 illustrations. (Price : $ 5. cloth bound.)

In Spanish.

1938 **313 .385 (.**

Ministerio de Obras Públicas, República Argentina.

Estadistica de los Ferrocarriles en explotación. A 1935, con los resultados principales de la explotac hasta 1937.

Buenos Aires, Ministerio de Obras Públicas. 1 vo men. 375 páginas y figuras.

[**016. 385. /05**]

II. — PERIODICALS.

In French.

Bulletin technique de la Suisse romande. (Vevey.)

1939 **625 .216 (.4)**

Bull. techn. de la Suisse romande, 11 février, p. 29.

L'introduction de l'**attelage automatique** sur les chemins de fer principaux d'Europe. (1 500 mots & fig.)

Economie et technique des transports (Lucerne

1939 **625 .2 (.4**

Economie et technique des transports, janvier, p. 2.

HUG (Ad. M.). — **Nouveau matériel roulant lé** de chemins de fer en Suisse. (800 mots & fig.)

1939 **625 .14**

Economie et technique des transports, janvier, p. 6.

FERRARI (R.). — **Traverse en béton armé p** tramways urbains. (1 000 mots.)

Electricité. (Paris.)

1939 **621 .335**

ectricité, février, p. 69.

TROLLUX (J.). — L'évolution actuelle dans la con-tion des **automotrices électriques.** (2 800 mots & fig.)

1939 **621 .336**

ectricité, février, p. 74.

Tachymètre à induction pour matériel de chemin de . (700 mots & fig.)

Génie civil. (Paris.)

1939 **385. (.55) & 625 .1 (.55)**

nie civil, n° 2945, 21 janvier, p. 62.

Le nouveau chemin de fer transiranien et son rôle nomique. (2 660 mots & fig.)

1939 **313 : 625 .143.3 (.43)**

nie civil, n° 2948, 11 février, p. 139.

Etude statistique des ruptures de rails survenues r les Chemins de fer allemands. (1 300 mots & fig.)

1939 **621 .33 (.44)**

nie civil, n° 2949, 18 février, p. 145.

DUMAS (J.). — **L'électrification** de la ligne de che-in de fer de Paris à Irun (Espagne). Achèvement du rnier tronçon Tours-Bordeaux. (6 900 mots, 3 tableaux fig.)

La Technique moderne. (Paris.)

1939 **621 .43 & 621 .89**

technique moderne, n° 2, 15 janvier, p. 54.

BRILLIE (H.). — **Le graissage des moteurs Diesel.** 200 mots & fig.)

1939 **621 .335 (.494)**

technique moderne, n° 2, 15 janvier, p. 61.

La nouvelle locomotive à courant monophasé de 000 C. V., type Ae 8/14, pour les Chemins de fer léraux suisses. (500 mots.)

1939 **62. (01 & 691**

technique moderne, n° 3, 1er février, p. 106.

LECOEUVRE (R.). — **Les journées de la lutte con-la corrosion.** (4 500 mots.)

Le Container. (Paris.)

1939 **656 .225 & 656 .261**

Container, janvier, p. 2.

L'isolation et la réfrigération des containers spéciaux. 200 mots.)

1939 **656 .225 & 656 .261**

Container, janvier, p. 7.

Amarrage des grands containers sur les wagons. 600 mots & fig.)

1939 **656 .225 & 656 .261**

Le Container, janvier, p. 34.

Concours international pour la **manutention des containers.** (2 000 mots.)

1939 **656 .225 (.42) & 656 .261 (.42)**

Le Container, janvier, p. 38.

NEIL (L. H. K.). — Expérience acquise par les chemins de fer britanniques dans l'utilisation des **containers** en trafic maritime avec le Continent. (2 500 mots.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1938 **388 (.73)**

L'Ind. des voies ferrées et des transp. autom., décembre, p. 366.

Les **transports en commun** des grands afflux de **voyageurs** dans les villes ou dans leur banlieue aux Etats-Unis. (2 300 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1939 **621 .135.4**

Revue générale des chemins de fer, février, p. 65.

LANOS. — Etude expérimentale et théorie du **mouvement de lacet** des locomotives en courbe. (19 000 mots & fig.)

1939 **621 .392 (.44), 621 .138.5 (.44) & 625 .26 (.44)**

Revue générale des chemins de fer, février, p. 103.

LABORIE (R.). — La **soudure électrique par résistance** dans les ateliers de réparation du matériel de la Société Nationale des Chemins de fer français. (5 000 mots, tableaux & fig.)

1939 **625 .244 (.44)**

Revue générale des chemins de fer, février, p. 117.

CHEVALLIER. — **Wagon réfrigérant** pour le transport de demi-bœufs suspendus. (8 100 mots & fig.)

1939 **621 .335 (.44)**

Revue générale des chemins de fer, février, p. 125.

Une **automotrice électrique sur pneus.** (400 mots & fig.)

1939 **621 .33 (.44)**

Revue générale des chemins de fer, février, p. 126.

L'**électrification** de la ligne de Tours à Bordeaux. (500 mots.)

1939 **625 .143.4**

Revue générale des chemins de fer, février, p. 143.

Joints de rails en biseau. (400 mots.)

Société Royale Belge des Ingénieurs et des Industriels. (Bruxelles.)

1938 **665 .882**

Sté Royale belge des Ing. et des Indus., octobre, p. 821.

BONHOMME (W.). — Le **chalumeau** et ses principales applications. (12 000 mots & fig.)

1939 **665 .882**
Sté Royale belge des Ing. et des Ind., janvier, p. 37.
BONHOMME (W.). — Le **chalumeau** et ses principales applications. (14 000 mots & fig.)

Traction nouvelle. (Paris.)

1939 **621 .131 & 621 .132.8**
Traction nouvelle, janvier-février, p. 2.
CHAN (G.). — **Possibilités nouvelles offertes par la vapeur.** (4 000 mots & fig.)

1939 **621 .43 (.44)**
Traction nouvelle, janvier-février, p. 10.
BERTRAND (L.). — Mise en service d'**automotrices** De Dietrich 500 C. V. (1 000 mots & fig.)

1939 **621 .335 (.44)**
Traction nouvelle, janvier-février, p. 14.
COQUET (H.). — **Traction électrique sur pneus.** (1 200 mots & fig.)

1939 **621 .43 (.43)**
Traction nouvelle, janvier-février, p. 16.
LAMPE (C.). — Les **automotrices rapides** triples et quadruples de la Reichsbahn. (5 000 mots & fig.)

1939 **621 .43 (.43)**
Traction nouvelle, janvier-février, p. 24.
Allégement des bogies moteurs électriques. (3 000 mots & fig.)

1939 **621 .43 (.43)**
Traction nouvelle, janvier-février, p. 28.
Les **moteurs Diesel Sulzer suralimentés** de 420, 735 et 2 200 C. V. (800 mots & fig.)

1939 **621 .137.1**
Traction nouvelle, janvier-février, p. 30.
LEDARD (H.). — Le **chargement mécanique du combustible** dans les foyers de locomotives. (1 000 mots & fig.)

In German.

Der Bahn-Ingenieur. (Berlin).

1939 **691**
Der Bahn-Ingenieur, Nr. 6, 5. Februar, S. 85.
ROTHFUCHS (G.). — Ermittelung des Mischungsverhältnisses für **Betonmischungen.** (2 400 Wörter & Abb.)

1939 **385 .586 (.43)**
Der Bahn-Ingenieur, Nr. 6, 5 Februar, S. 90.
BURDA. — Drei Jahre **Lehrzeit** bei der Deutschen Reichsbahn. (4 500 Wörter & Abb.)

Die Reichsbahn. (Berlin.)

1939 **385 .52 (.**
Die Reichsbahn, Heft 4, 25. Januar, S. 106.
PETZOLDT (A.). — Die **Besoldung** der sudet deutschen Eisenbahner im Dienst der Tschecho-Slo kischen Staatsbahnen. (3 700 Wörter & Tafeln.)

1939 **385 .517.7 (.**
Die Reichsbahn, Heft 5, 1. Februar, S. 123.
Die **Wohnungsfürsorge** der Deutschen Reichsba (1 000 Wörter & Abb.)

1939 **625 .19 (.**
Die Reichsbahn, Heft 5, 1. Februar, S. 126.
SCHUCHMANN. — Die **Hochwasserstörungen** Neisse und ihre Bekämpfung durch die Reichsba (5 200 Wörter & Abb.)

1939 **385 .575 (.**
Die Reichsbahn, Heft 6, 8. Februar, S. 150.
DREYER. — **Dienstpläne** für Zugbegleiter. (2 Wörter & Plan.)

1939 **385 .5 (.**
Die Reichsbahn, Heft 7/8, 15/22. Februar, S. 163.
HAUSTEIN (W.). — Die **Eingliederung** der Beam der Oesterreichischen Bundesbahnen in den Perso körper der Deutschen Reichsbahn. (43 000 Wörter.)

Elektrische Bahnen. (Berlin.)

1939 **625**
Elektrische Bahnen, Dezember, S. 293.
HILSENBECK (K.). — **Blitzgefahr und Blitzsch** bei Personen-Seilschwebebahnen. (2 400 Wörter & Ab

1939 **625 .5 (.4**
Elektrische Bahnen, Dezember, S. 299.
WILDUNG (W.). — Die **Galzigbahn** bei St. Anton Arlberg. (2 600 Wörter & Abb.)

1939 **621 .335 (.494) & 625 .3 (.4**
Elektrische Bahnen, Dezember, S. 302.
HUGENTOBLER (E.). — Die **elektrischen Triebw** gen der Rigi-Bahn. (1 200 Wörter & Abb.)

1939 **621 .335 (.494) & 625 .3 (.4**
Elektrische Bahnen, Dezember, S. 304.
ALTDORFER (P.). — Die **elektrischen Triebwag** der Pilatusbahn. (2 200 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1939 **625 .23 (.4**
Glasers Annalen, Heft 1, 1. Januar, S. 1.
SCHARRNBECK (W.). — Betrachtungen des Cher kers über **Kunststoffe im Wagenbau** der Reichsba (6 400 Wörter.)

1939 **621 .35 (.43)**
asers Annalen, Heft 1, 1. Januar, S. 7.
RÖDIGER (W.). — Die **akkumulator-elektrischen** **hrzeuge** der Deutschen Reichsbahn. (3 800 Wörter & ob.)

1939 **621 .87**
asers Annalen, Heft 2, 15. Januar, S. 13.
WOESTE (Fr.). — **Lokomotiv-Drehkran** mit neuzeitlichem diesel-mechanischem Antrieb. (2 400 Wörter & ob.)

1939 **621 .131**
asers Annalen, Heft 2, 15. Januar, S. 16.
VELTE. — Weitere theoretische und praktische Beiäge zur Beurteilung der **Dampfeigenschaften** bei ampflokomotiven. (4 800 Wörter.)

rgan für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **621 .132.3 (.68)**
gan für die Fortschr. des Eisenbahnw., Heft 3, 1. Februar, S. 45.
BANGERT (P. H.). — 2 **DI-Heissdampf-Schnellzug-komotive** Klasse 23 der Südafrikanischen Bahnen 500 Wörter & Abb.)

1939 **621 .132.1 (.437)**
gan für die Fortschr. des Eisenbahnw., Heft 3, 1. Februar, S. 51.
LÜBSEN (W.). — **Lokomotivtypen** der Tschecho-Slokischen Staatsbahnen. (3 000 Wörter & Abb.)

1939 **621 .43 (.81)**
gan für die Fortschr. des Eisenbahnw., Heft 3, 1. Februar, S. 55.
Dreiteilige dieselmechanische Triebwagen für Brasin. (1 200 Wörter & Abb.)

1939 **625 .245 (.439)**
gan für die Fortschr. des Eisenbahnw., Heft 4, 15. Februar, S. 63.
VARGA (B.). — Güterwagen der Kgl. Ungarischen aatseisenbahnen zur **Beförderung von Personenkraftgen.** (3 800 Wörter & Abb.)

1939 **385 .587 & 621 .138.1**
gan für die Fortschr. des Eisenbahnw., Heft 4, 15. Februar, S. 69.
OSTHOFF. — **Fliessbetrieb mit Schienenfahrzeugen** Eisenbahnbetriebswerken. (3 300 Wörter & Abb.)

1939 **625 .143.1 (.42)**
gan für die Fortschr. des Eisenbahnw., Heft 4, 15. Februar, S. 73.
SALLER (H.). — Englische Versuche mit **Breitfussienen.** (1 500 Wörter & Abb.)

1939 **624 .2**
gan für die Fortschr. des Eisenbahnw., Heft 4, 15. Februar, S. 75.
BRÜCKMANN. — Versuchsmässige Bestimmung von **namischen Wirkungen** auf stählerne Eisenbahnbrükn. (1 900 Wörter & 4 Tafeln.)

1939 **656 .1 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 4, 15. Februar, S. 80.
3 000 Kilometer **Reichsautobahnen.** (1 900 Wörter & Karte.)

Verkehrstechnische Woche. (Berlin.)

1939 **625 .244 (.73)**
Verkehrstechnische Woche, Heft 7, 15. Februar, S. 73.
BAUR (H.). — Amerikanische **Kühlwagen.** (7 000 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure. (Berlin.)

1939 **62. (01 & 621 .392**
Zeitschr. des Ver. deutsch. Ing., Nr. 3, 21 Januar, S. 83.
HOLZHAUER (Cl.). — Korrosionswiderstand von **Schweissverbindungen** in Stahl. (6 000 Wörter & 2 Tafeln.)

1939 **621 .43 (.44)**
Zeitschr. des Ver. deutsch. Ing., Nr. 3, 21 Januar, S. 91.
Triebwagen der französischen Eisenbahnen. (700 Wörter & Abb.)

1939 **669 .1 & 69**
Zeitschr. des Ver. deutsch. Ing., Nr. 4, 28. Januar, S. 93.
SCHAPER (G.). — Der hochwertige **Baustahl St. 52** im Bauwesen. (5 400 Wörter & Abb.)

1939 **625 .215**
Zeitschr. des Ver. deutsch. Ing., Nr. 4, 28. Januar, S. 112.
Das Verhalten von **Drehgestellwagen mit Wiegen** in Gegenbögen. (500 Wörter.)

1939 **662**
Zeitschr. des Ver. deutsch. Ing., Nr. 4, 28. Januar, S. 114.
NIEDERMAYER (E.). — Verhalten von **Dieselkraftstoffen** mit hohen und niedrigen Zetenzahlen. (1 600 Wörter.)

1939 **621 .43**
Zeitschr. des Ver. deutsch. Ing., Nr. 6, 11. Februar, S. 141.
ZINNER (K.). — Stand der Erkenntnis über die **Gemischbildung im Otto- und Dieselmotor.** (5 400 Wörter & Abb.)

1939 **62. (01**
Zeitschr. des Ver. deutsch. Ing., Nr. 6, 11. Februar, S. 149.
KÜSSNER (H. G.). — Fortschritte der **mechanischen Schwingungsforschung.** (7 700 Wörter.)

1939 **621 .135 (01, 621 .135.4 & 625 .215**
Zeitschr. des Ver. deutsch. Ing., Nr. 6, 11. Februar, S. 157.
NORDMANN (H.). — Untersuchungen über **Schwingungen an Eisenbahnfahrzeugen.** (2 700 Wörter & Abb.)

1939 **621 .43**
Zeitschr. des Ver. deutsch. Ing., Nr. 7, 18. Februar, S. 183.
DREYHAUPT (F.). — **Wirkung des Luftspeichers auf die Verbrennung** in Luftspeicher-Dieselmotoren. (2 400 Wörter & Abb.)

1939 **621 .392 & 665 .882**
Zeitschr. des Ver. deutsch. Ing., Nr. 8, 25. Februar, S. 237.
LE COMTE (H.). — Arbeitszeitsparende und unfallverhütende **Schweisseinrichtungen.** (5 000 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **625 .4 (.43) & 656 .253 (.43)**
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 2, 1. Februar. S. 15.
CHAUSSETTE (G.). — Die **halbselbsttätigen Signale** der Berliner S-Bahn. (3 200 Wörter & Abb.)

1939 **656 .253 (.43)**
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 2, 1. Februar. S. 23.
NITSCHKE. — Massnahmen bei zu geringem **Vorsignalabstand.** (1 000 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **385 (.4)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 4, 26. Januar, S. 91; Nr. 5, 2. Februar, S. 121.
Rückblick auf das Jahr 1938. (40 000 Wörter.)

1939 **385. (.494)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 6, 9. Februar, S. 155.
Der **Anschlusszwang** der Eisenbahnen nach schweizerischem Recht. (1 400 Wörter.)

1939 **388. (.42)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 7, 16. Februar, S. 172.
Londoner Stadtverkehr im Jahre 1937-38. (1 400 Wörter.)

1939 **656. (.06 (.43)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 7, 16. Februar, S. 173.
Internationale Verkehrs-Ausstellung in Köln im Jahre 1940. (1 600 Wörter & Abb.)

In English.

Annals, American Academy of Political and Social Science. (Philadelphia.)

1939 **336 .14 & 625 .62**
Annals, Amer. Academy of Political and Social Science. January, p. 111.
FITZGERALD (Th.) and PALMER (C. D.). — The case for **private ownership and operation of street railways.** (4 400 words.)

1939 **336 .14 (.42) & 388. (**
Annals, Amer. Academy of Political and Social Scie
January p. 118.
LLOYD WILSON (G.). — The London Passe
Transport Board. — **A public transportation ti**
(3 600 words.)

1939 **385 .15 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 124.
PELLEY (J. J.). — **Problems of the railroads.** (
words.)

1939 **385 .15 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 129.
SORRELL (L. C.). — The case for **private enter**
in railroads in the United States. (5 200 words.)

1939 **385 .15 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 137.
MONTGOMERY (R. H.). — **Government owner**
and operation of railroads. (5 700 words.)

1939 **385 .15 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 146.
BOHMAN (R. F.). — **Transportation — The Hy**
(3 500 words.)

1939 **385 .3 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 152.
SPLAWN (W. M. W.). — **Railroad regulation by**
Interstate Commerce Commission. (8 000 words.)

1939 **385 .3 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 165.
JOHNSON (E. R.). — **Government regulation of**
roads in the United States. (7 200 words.)

1939 **385 .15**
Annals, Amer. Academy of Political and Social Scie
January, p. 175.
JACKMAN (W. T.). — **Appraisal of Governm**
ownership and operation of railways in Canada. (
words.)

1939 **385 .15 (.42) & 385 .3 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 185.
AITCHISON (C. B.). — **State control of trans**
services and rates in Great Britain. (12 500 words.)

1939 **347 .763 (.42) & 385 .3 (**
Annals, Amer. Academy of Political and Social Scie
January, p. 203.
SHERRINGTON (C. E. R.). — Recent developm
in the **regulation of railways** in Great Britain. (
words.)

1939 **385 .15 (.44)**
nals, Amer. Academy of Political and Social Science, January, p. 211.
DOUGALL (H. E.). — **Public and private operation railways** in France. (4 500 words.)

1939 **385 .15 (.44)**
nals, Amer. Academy of Political and Social Science. January, p. 217.
HARCAVI (G.). — **Nationalization of the French ilways.** (7 300 words.)

1939 **347 .763 & 656 .1**
nals, Amer. Academy of Political and Social Science, January, p. 233.
BRISBINE (D. E.) and ADAMS (G. M.). — **Extent d possibilities of highway regulation.** (7 200 words.)

1939 **347 .763 (.73) & 656**
nals. Amer. Academy of Political and Social Science. January, p. 243.
NOBLE (E. J.). — Federal regulation of air trans-rtation. (3 100 words.)

Bulletin, American Railway Engineering Association. (Chicago, Ill.)

1939 **624. (.73) & 721 .9 (.73)**
lletin. American Railway Engineering Association. No. 408, January, p. 363.
Report of Committee 15. — **Iron and steel structures.** structions for the mill inspection of structural steel. structions for the inspection of bridge erection. (4 300 rds.)

1939 **624. (.73) & 625 .13 (.73)**
lletin. American Railway Engineering Association, No. 408, January, p. 372.
Report of Special Committee. — **Economics of bridges d trestles.** (1 700 words.)

1939 **624. (.73)**
lletin, American Railway Engineering Association, No. 408, January, p. 375.
Report of Committee 7. — **Wood bridges and trestles.** proved design of wood structures to give longer life th lower cost of maintenance. Fireproofing wood dges and trestles, including placing of fire stops. Use tar and asphalt compositions for wearing surfaces on od floored high-way bridges, etc. (11 000 words & .)

1939 **693. (.73)**
lletin, American Railway Engineering Association, No. 408, January, p. 401.
Report of Committee 8. — **Masonry.** Revision of nual. Progress in the Science and Art of concrete nufacture. Specifications for pile foundations; etc. 3 000 words.)

1939 **657. (.73)**
lletin, American Railway Engineering Association. No, 408. January, p. 435.
Report of Committee 11. — **Records and accounts.** liography on subjects partaining to records and ac-nts. Office and drafting room practices; etc. (10 000 rds & fig.)

1939 **625 .142.2 (.73) & 691. (.73)**
Bulletin, American Railway Engineering Association, No. 409, February, p. 457.
Report of Committee 17. — **Wood preservation :** Service test records for treated ties. — Piles used for marine construction. — Effect of treatment with creosote-petroleum. — Destruction by termites and prevention; etc. (13 000 words, tables & fig.)

1939 **625 .12 (.73) & 625 .141 (.73)**
Bulletin. American Railway Engineering Association. No. 409. February, p. 519.
Report of Committee 1. — **Roadway and ballast :** Culverts, location and types. — Roadway, widths and angle of slopes. Tunnels, ventilation. Use of asphalt in ballast; etc. (12 000 words, tables & fig.)

1939 **625 .14 (.73)**
Bulletin. American Railway Engineering Association. No. 409, February, p. 543.
Report of Committee 5. — **Track :** Fastenings for continuous welding of rail. — Plans and specifications for track tools. — Bolt tension in rail joints. Lubrication in rail joints. Brine dripping investigation; etc. (14 000 words, tables & fig.)

1939 **625 .143 (.73)**
Bulletin. American Railway Engineering Association. No. 409, February, p. 593.
Report of Committee 4. — **Rail :** Rail failure statistics for 1937. Transverse fissure failure statistics. — Economics of rail lengths in excess of 39 ft. — Service tests of various types of joint bars. — Straightening of bent and kinked rail; etc. (9 000 words, tables & fig.)

1939 **625 .14 (01 (06 (.73)**
Bulletin. American Railway Engineering Association. No. 409. February, p. 625.
Report of Special Committee on stresses in **railroad track.** Classification of railways. Complete structure for various loads and traffic densities. (1 000 wodrs.)

1939 **625 .142 (.73)**
Bulletin, American Railway Engineering Association, No. 409, February, p. 635.
Report of Committee 3. — **Ties :** Tie renewal averages and costs per mile of maintained track. Dimensions of ties; etc. (2 200 words & fig.)

Engineer. (London.)

1939 **621 .6 (093**
Engineer, No. 4332, January 20, p. 78.
A history of rotary engines and pumps. (4 600 words & fig.)

1939 **627**
Engineer, No. 4332, January 20, p. 81.
Harbours and waterways in 1938. (5 200 words & fig.)

1939 **621 .3**
Engineer, No. 4332, January 20, p. 83.
Electrical engineering in 1938. (5 000 words & fig.)

1939 **621 .43**
Engineering, No. 4332, January 20, p. 87.
Oil-engined rail traction in 1938. (4 800 words & fig.)

1939 **656**
Engineer, No. 4332, January 20, p. 95.
The **transport problem statistically.** (1 800 words.)

1939 **623**
Engineer, No. 4333, January 27, p. 107.
Engineering Precautions (air raid) Committee. (3 700 words.)

1939 **621 .39 & 621 .43**
Engineer, No. 4334, February 3, p. 152.
The Piezo-electric indicator. (3 700 words & fig.)

1939 **385 .114 & 656 .222.1**
Engineer, No. 4334, February 3, p. 157.
The **cost of railway speed.** (1 400 words.)

1939 **621 .7**
Engineer, No. 4334, February 3, p. 163.
A **new metal spraying pistol.** (2 200 words & fig.)

1939 **385 .114 & 656 .222.1**
Engineer, No. 4334, February 3, p. 165.
McMURDO (A. H.). — Railways and the quest for **speed.** (5 000 words.)

1939 **62. (01 & 669**
Engineer, No. 4335, February 10, p. 184.
Testing metals for wear by friction discs. (2 500 words & fig.)

1939 **621 .392 (.73) & 625 .144.1 (.73)**
Engineer, No. 4335, February 10, p. 186.
Welded rails in a long tunnel. (400 words.)

1939 **621 .95**
Engineer, No. 4335, February 10, p. 194.
BURNESS (T. P.). — The production of **accurate bores.** (2 300 words & fig.)

1939 **62. (01**
Engineer, No. 4335, February 10, p. 195.
A wire rope tester. (300 words & fig.)

1939 **721 .6**
Engineer, No. 4335, February 10, p. 197.
FITZMAURICE (R.). — **Floors for industrial purposes.** (6 500 words & tables.)

Engineering. (London.)

1939 **536 & 62. (01**
Engineering, No. 3810, January 20, p. 60.
BAILEY (A.) and LYELL (N. C.). — The **loss of heat** from the external surface of a hot pipe in air. (2 200 words & fig.)

1939 **621**
Engineering, No. 3810, January 20, p. 64.
Atomiser for airless-injection engines. (600 words & fig.)

1939 **347 .763 (.42) & 656 .1 (.4**
Engineering, No. 3810, January 20, p. 72.
The Traffic Commissioners' reports. (1 900 words.)

1939 **62. (01 & 621**
Engineering, No. 3810, January 20, p. 79.
Observation of **internal-combustion processes.** (words.)

1939
Engineering, No. 3811, January 27, p. 110.
KNOWLER (A. E.). — Nomogram relating to sou **transmission through partitions.** (900 words.)

1939 **621 .13 & 621**
Engineering, No. 3811, January 27, p. 130.
Progress in **railway mechanical engineering.** (2 words.)

1939 **621**
Engineering, No. 3811, January 27, p. 134.
Technical aspects of **railway electrification.** (words.)

1939 **621 .82 & 621**
Engineering, No. 3811, January 27, p. 138.
FIELD (E. W.). — The use of **ball and roller be ings for machine tools** and their influence on accura (1 600 words & fig.)

1939 **621**
Engineering, No. 3813, February 10, p. 171.
HARLEY (S. J.). — **The forming of screw threads grinding.** (3 400 words & fig.)

Engineering News-Record. (New York.)

1939 **621 .392 (.73) & 625 .7 (.7**
Engineering News-Record, No. 3, January 19, p. 49.
FAIGLE (J. E.). — **Well planned pier welding.** (words & fig.)

1939 **624. (.9**
Engineering News-Record, No. 3, January 19, p. 52.
Controlling bridge deflection during construction. (words & fig.)

1939 **624. (0 (.7**
Engineering News-Record, No. 3, January 19, p. 55.
BURKEY (J. R.). — **Better bridge floors.** (1 100 wo & fig.)

Journal, Institute of Transport. (London.)

1939 **656 .222.1 (.4**
Journal, Institute of Transport, No. 4, February, p.
FISHER (S. H.). — **Acceleration of railway servi** (10 500 words & fig.)

1939 656
urnal, Institute of Transport, No. 4, February, p. 159.
EARL OF DUDLEY (The Rt. Hon.). — **Transport m an industrialist's point of view.** (8 000 words.)

Journal, Institution of Civil Engineers. (London.)

1939 347 .75
urnal, Institution of Civil Engineers, February, p. 3.
RIMMER (E. J.). — The conditions of **engineering ıtracts.** (Paper and discussion.) (30 000 words.)

1939 624 .2 & 721 .9
urnal, Institution of Civil Engineers, February, p. 61.
The properties of composite beams, consisting of steel st encased in concrete, under direct and sustained ding. (21 000 words & fig.)

Journal, Institution of Engineers, Australia. (Sydney.)

1938 621 .8
urnal, Institution of Engineers, Australia, December, p. 427.
Transmission of torque by keys and keyways. (5 700 rds & fig.)

1938 62. (01 & 621 .8
urnal, Institution of Engineers, Australia, December, p. 433.
Apparatus for photo-elastic experiments in pure tor-e. (2 600 words & fig.)

Mechanical Engineering. (New York.)

1939 62. (01
echanical Engineering, February, p. 107.
BRIDGMAN (P. W.). — **Considerations on rupture der triaxial stress.** (6 400 words & fig.)

1939 662
echanical Engineering, February, p. 115.
KREISINGER (H.). — **Combustion of wood-waste els.** (6 100 words & fig.)

1939 621 .116 & 621 .133.7
echanical Engineering, February, p. 142.
Boiler-water treatment. (5 200 words & fig.)

Modern Transport. (London.)

1939 385 .3 (.42)
odern Transport, No. 1036, January 21, p. 3.
Safeguards proposed by Railway Companies. (3 700 rds.)

1939 656 .257 (.42)
Modern Transport, No. 1036, January 21, p. 5.
New **signalling** at Edinburgh (Waverley East). (2 700 words & fig.)

1939 656 .1 (.42) & 656 .27 (.42)
Modern Transport, No. 1036, January 21, p. 12.
Licensing of passenger vehicles. (2 800 words.)

1939 656. (.43)
Modern Transport, No. 1037, January 28, p. 3.
Roads competing with railways. (2 200 words.)

1939 656. (.42)
Modern Transport, No. 1037, January 28, p. 13.
Developments in « **square deal** » **campaign.** Views of traders and coastal shipping. (2 800 words.)

1939 385 .1 (.44)
Modern Transport, No. 1038, February 4, p. 3.
LE BESNERAIS. — **Financial position of the French National Railways.** (2 600 words.)

1939 621 .33 (.42) & 656 .23 (.42)
Modern Transport, No. 1038, February 4, p. 4.
Railway electrification. Increase of Southern Railway traffic. (1 000 words.)

1939 656 .25 (.42)
Modern Transport, No. 1938, February 4, p. 6.
Emergency working at Paddington. Results of G.W.R. signalbox fires. (900 words & fig.)

1939 621 .43 (.82)
Modern Transport, No. 1038, February 4, p. 7.
Economic aspect of railcars. The ideal vehicle. (1 800 words.)

1939 656. (.42)
Modern Transport, No. 1039, February 11, p. 3.
Road and Rail transport. Agreement with haulage industry. (3 000 words.)

Proceedings, American Society of Civil Engineers. (New York.)

1939 62. (01 & 721
Proc., Amer. Soc. Civil Eng., February, p. 193.
VAN DEN BROECK (J. A.). — Theory of limit design. (12 000 words & fig.)

1939 614 .5
Proc., Amer. Soc. Civil Eng., February, p. 229.
Malaria control for Engineers. Report of the Joint Committee of the National Malaria Committee through its sub-Committee of Engineering and the Sanitary Engineering Division, American Society of Civil Engineers. — Bibliography. (22 000 words & fig.)

Proceedings, Institution of Railway Signal Engineers. (Reading.)

1938 **625 .1 & 656 .25**
Proceedings, Institution of Railway Signal, Engineers, Part I, p. 20.
CROOK (G. H.). — **The signal engineer and the permanent way.** (Presidential address, 23-2-38.) (10 000 words.)

1938 **656 .222.1 & 656 .25**
Proceedings, Institution of Railway Signal, Engineers, Part I, p. 39.
EGGINTON (F. B.). — **High-speed trains and their effect on signalling.** (Paper and discussion.) (12 000 words.)

1938 **654 & 656 .254**
Proceedings, Institution of Railway Signal, Engineers, Part I, p. 62.
QUELCH (R. P.). — **Principles of selectivity as applied to railway telephony and telegraphy** (Paper and discussion.) (14 500 words.)

1938 **656 .212.5**
Proceedings, Institution of Railway Signal, Engineers, Part I, p. 89.
KUBALE (J. C.). — **Gravitation yards.** (Paper and discussion.) (16 000 words.)

Railway Age. (New York.)

1939 **656 .212.6 (.73)**
Railway Age, No. 2, January 14, p. 114.
Vertical, turbine type fire pumps for grain elevators. (1 700 words & fig.)

1939 **621 .118 (.73) & 621 .13 (.73)**
Railway Age, No. 2, January 14, p. 117.
Annual report of Locomotive Inspection Bureau. (1 300 words & fig.)

1939 **385 .3 (.73)**
Railway Age, No. 2, January 14, p. 122.
Congress gets **new railway measures.** (16 000 words.)

1939 **385**
Railway Age, No. 3, January 21, p. 145.
Economics and politics of the railroad problem. (3 800 words.)

1939 **625 .13 (.73)**
Railway Age, No. 3, January 21, p. 149.
HIRSCHTAL (M.). — **Novel girder design** employed in grade separation structure. (2 200 words & fig.)

1939 **625 .234 (.73)**
Railway Age, No. 3, January 21, p. 152.
Wet-bulb air-conditioning control. (2 000 words & fig.)

1939 **347 .763 (.73)**
Railway Age, No. 3, January 21, p. 154.
Transportation Act of 1939. (Omnibus bill which is expected to form basis for broad-gage legislation.) (3 000 words.)

1939 **621 .13 (0 (.**
Railway Age, No. 3, January 21, p. 158.
Efficient use of locomotives. (2 200 words & fig.)

1939 **656 .1 (.**
Railway Age, No. 3, January 21, p. 160.
What about the « **Gypsy** » **trucker.** (2 300 words.)

1939 **614 .8 (06 (.**
Railway Age, No. 3, January 21, p. 162.
Bureau of Safety annual report. (1 800 words.)

1939 **627. (.**
Railway Age, No. 4, January 28, p. 185.
Reconstructs failed ore dock wall at Cleveland. (2 words & fig.)

1939 **385 .4 (.73) & 656 .1 (.**
Railway Age, No. 4, January 28, p. 188.
Bureau of Motor Carriers progresses. (2 700 wor

1939 **625 .212 (.**
Railway Age, No. 4, January 28, p. 192.
Chilled wheels in pictures. (2 500 words & fig.)

1939 **625 .142.2 (06 (.**
Railway Age, No. 5, February 4, p. 218.
Wood Preservers meet in Washington. **Treatmen** timber for railway service receives major attention well attended meeting. (4 000 words.)

1939 **625 .215 (.**
Railway Age, No. 5, February 4, p. 221.
Modified **freight truck for high-speed service.** (1 words & fig.)

1939 **62. (01 & 621 .135**
Railway Age, No. 5, February 4, p. 222.
Reduction of locomotive vibration. (1 200 words &

1939 **656 .1 (.**
Railway Age, No. 5, February 4, p. 230.
NEFF (P. J.). — Missouri Pacific finds its **bus s** sidiary a valuable adjunct in **providing modern** senger service. (2 000 words.)

1939 **625 .251 (.**
Railway Age, No. 5, February 4, p. 232.
Rowley **electric automatic brake control.** (1 800 w & fig.)

1939 **621 .138.1 (.73) & 621 .139 (.**
Railway Age, No. 5, February 4, p. 234.
WAKEMAN (C. L.). — Wabash keeps an eye **engine house supplies.** (1 600 words & fig.)

1939 **621 .43 (.**
Railway Age, No. 6, February 11, p. 256.
Small railcar is tested **in light mixed branch** service. (1 800 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **313 : 625 .144.4 (.73)**
ailway Engineering and Maintenance, January, p. 20.
Railways continue to buy work equipment. (5 500 rds & fig.)

1939 **624 (.73) & 656 .284**
ailway Engineering and Maintenance, January, p. 25.
VAN NESS (R. A.). — Lessons to be learned from ent bridge failures. (2 300 words & fig.)

1939 **625 .143.4 (.73) & 665 .882 (.73)**
ailway Engineering and Maintenance, January, p. 28.
New oxy-acetylene process for butt-welding rails. 800 words & fig.)

1939 **625 .143.4 & 625 .172**
ailway Engineering and Maintenance, January, p. 32.
SCHRAM (I. H.). — Maintaining joints on yielding adbed. (700 words.)

1939 **625 .17 (.42 + .73)**
ailway Engineering and Maintenance, February, p. 76.
An English officer (W. K. Wallace) compares main-nance practices. (4 000 words & fig.)

1939 **625 .143.3 (.73) & 625 .17 (.73)**
ailway Engineering and Maintenance, February, p. 80.
Removes rail corrugations with new grinder car. 400 words & fig.)

1939 **725 .31 (.73)**
ailway Engineering and Maintenance, February, p. 84.
Chicago, Rock Island & Pacific modernizes passenger ation at modest expense. (1 500 words & fig.)

1939 **625 .142.2 (.73)**
ailway Engineering and Maintenance, February, p. 87.
BETTIS (W. H.). — Treated ties. — What they have eant to the Norfolk & Western. (1 600 words.)

Railway Gazette. (London.)

1939 **625 .212 (.43) & 625 .26 (.43)**
ailway Gazette, No. 3, January 20, p. 97.
Reconditioning wheel sets. (700 words & fig.)

1939 **614 .7 (.73) & 625 .4 (.73)**
ailway Gazette, No. 3, January 20, p. 98.
Problem of smoke disposal from built-over station. 000 words.)

1939 **621 .392 (.43) & 624. (.43)**
ailway Gazette, No. 3, January 20, p. 99.
Large welded German bridges. (2 800 words & fig.)

1939 **625 .616 (.54)**
ailway Gazette, No. 3, January 20, p. 103.
Metre-gauge 2-6-4 tank locomotives, South Indian ailway. (800 words & fig.)

1939 **656 .212.6 (.42)**
Railway Gazette, No. 3, January 20, p. 104.
A new mobile crane with unusual features. (500 words & fig.)

1939 **625 .243 (.42)**
Railway Gazette, No. 3, January 20, p. 105.
The use of G. W. R. partitioned vans. (500 words & fig.)

1939 **621 .131.1 (.5)**
Railway Gazette, No. 4, January 27, p. 134.
Improvements in locomotives of the Syrian Railways. (700 words & fig.)

1939 **625 .613 (.54) & 625 .617 (.54)**
Railway Gazette, No. 4, January 27, p. 136.
Unusual scheme for light permanent way. (1 200 words & fig.)

1939 **656 .255 (.945)**
Railway Gazette, No. 4, January 27, p. 137.
Token working on Victorian Railways. (600 words.)

1939 **656 .257 (.43)**
Railway Gazette, No. 4, January 27, p. 138.
Automatic interlocking in Germany. (900 words.)

1939 **621 .137 & 621 .138**
Railway Gazette, No. 4, January 27, p. 139.
SAMS (J. G. B.). — Closer locomotive working. (1 500 words.)

1939 **625 .212 (.44)**
Railway Gazette, No. 4, January 27, p. 140.
Measuring longitudinal wear on journals. (400 words & fig.)

1939 **621 .39 & 621 .138.5**
Railway Gazette, No. 4, January 27, p. 142.
Furnace installations in railway shops. (1 400 words & fig.)

1939 **62. (01 (.73) & 625 .283 (.73)**
Railway Gazette, No. 4, January 27, pp. 125 & 150.
Head-on collision between all-steel expresses. (4 400 words & fig.)

1939 **621 .133.5 (.89)**
Railway Gazette, No. 5, February 3, p. 167.
Locomotive draught arrangements. (600 words & fig.)

1939 **656 .222.1**
Railway Gazette, No. 5, February 3, p. 174.
ALLEN (C. J.). — Railway speed developments in 1938. (3 000 words & tables.)

1939 **625 .174 (.43)**
Railway Gazette, No. 5, February 3, p. 179.
Clearing points of snow and ice. (700 words & fig.)

1939 **625 .144.4 (.42) & 625 .172 (.42)**
Railway Gazette, No. 5, February 3, p. 180.
Measured shovel packing. (1 500 words & fig.)

1939 **625 .232 (.42)**
Railway Gazette, No. 5, February 3, p. 183.
Invalid saloon for the Southern Railway. (1 100 words & fig.)

1939 **656 .231 (.89)**
Railway Gazette, No. 6, February 10, p. 217.
A simplified **rate classification** in Uruguay. (2 000 words & fig.)

1939 **656 .1 (.42)**
Railway Gazette, No. 6, February 10, p. 224.
Seventh annual **reports of the Traffic Commissioners.** Continued decline in number of operators. Satisfactory standard of maintenance. (1 600 words.)

1939 **621 .43**
Diesel Railway Traction, p. 3, Supplt. to the Railway Gazette, January 20.
Multiple-unit trains. (1 000 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 6, Supplt. to the Railway Gazette, January 20.
Single-unit railcars. (700 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 8, Supplt. to the Railway Gazette, January 20.
Shunting and light service diesel locomotives. (700 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 10, Supplt. to the Railway Gazette, January 20.
High-power diesel locomotives. (1 100 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 12, Supplt. to the Railway Gazette, January 20.
Oil-engines. (1 300 words & fig.)

1939 **621 .43 & 621 .8**
Diesel Railway Traction, p. 14, Supplt. to the Railway Gazette, January 20.
Transmission systems. (900 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 16, Supplt. to the Railway Gazette, January 20.
Engine and mechanical equipment. (2 200 words & fig.)

1939 **621 .43 (.73)**
Diesel Railway Traction, p. 19, Supplt. to the Railway Gazette, January 20.
A review of progress in the United States. (1 700 words & fig.)

1939 **621 .338 (.68)**
Electric Railway Traction, p. 10, Supplt. to the Railway Gazette, February 3.
JOHNSON (E. S.). — The Reef **multiple-unit stock.** (6 200 words & fig.)

1939 **621 .335 (.49**
Electric Railway Traction, p. 19, Supplt. to the Railw Gazette, February 3.
New **Gothard locomotive.** (700 words & fig.)

1939 **621 .338 (.4**
Electric Railway Traction, p. 20, Supplt. to the Railw Gazette, February 3.
A French **standard motor coach.** (600 words & fi

1939 **621 .33 (.4**
Electric Railway Traction, p. 21, Supplt. to the Railw Gazette, February 3.
SMART (S. W.). — Southern Railway **electrificati** (1 500 words.)

Railway Magazine. (London.)

1939 **656 .222.1 (.4**
Railway Magazine, No. 500, February, p. 89.
ALLEN (C. J.). — **British locomotive performa** 1930-1938. (4 500 words & fig.)

1939 **621 .13 (.4**
Railway Magazine, No. 500, February, p. 100.
LAKE (Ch. S.). — **Locomotive development, 19** 1938. (2 800 words & fig.)

1939 **656 .222.1 (.4**
Railway Magazine, No. 500, February, p. 107.
A review of **railway speeds, 1930-1938.** (4 800 wo & fig.)

1939 **656 .1 (.4**
Railway Magazine, No. 500, February, p. 118.
LEE (Ch. E.). — **On the highway.** (4 200 words fig.)

1939 **656 .234 (.4**
Railway Magazine, No. 500, February, p. 129.
POTTER (G. W. J.). — An **unusual ticket collecti** (1 800 words & fig.)

Railway Mechanical Engineer. (New York.)

1939 **621 .13 (0 (.4**
Railway Mechanical Engineer, No. 1, January, p. 1.
The **evolution of the locomotive,** in France. (5 words.)

1939 **625 .215 (.7**
Railway Mechanical Engineer, No. 1, January, p. 5.
Modified freight truck for high-speed service. (1 words & fig.)

1939 **62. (01, 621 .13 & 625**
Railway Mechanical Engineer, No. 1, January, p. 7.
WILLIAMS (F. H.). — **Failures of locomotive** car parts. (1 700 words & fig.)

1939 **621 .133.4 (.**
Railway Mechanical Engineer, No. 1, January, p. 9.
Anderson **spark eliminator.** (1 500 words & fig.)

939 621 .392 (.73) & 625 .241 (.73)
lway Mechanical Engineer, No. 1, January, p. 11.
roduction methods used in construction of Milwau- welded flat cars. (1 600 words & fig.)

939 621 .13 (.73) & 625 .2 (.73)
lway Mechanical Engineer, No. 1. January. p. 16.
938 equipment. (9 figures.)

939 621 .138.5 & 662
lway Mechanical Engineer, No. 1, January, p. 22.
as burners for the railroad shop. (2 800 words &

939 625 .212 (.73) & 625 .26 (.73)
lway Mechanical Engineer, No. 1, January, p. 29.
IPKEN (H. F.). — Wheel shop observations. (1 700 ds & fig.)

939 621 .9 (.73)
lway Mechanical Engineer, No. 1, January, p. 31.
VILLIAMS (C. G.). — Carbide-tip tools in a car p. (1 000 words.)

939 621 .43 (.73)
lway Mechanical Engineer, No. 2, February, p. 43.
LATCH (P. H.). — General overhaul of the New ven Comet. (6 200 words & fig.)

939 621 .132.3 (.73) & 621 .132.5 (.73)
lway Mechanical Engineer, No. 2, February, p. 49.
anta Fe locomotives. — Baldwin builds 21 units. ven 4-8-4 type for passenger service and ten 2-10-4 e for freight. (3 600 words, tables & fig.)

939 614 .8 (.73) & 621 .13 (0 (.73)
lway Mechanical Engineer, No. 2, February, p. 55.
nnual report of the Bureau of Locomotive Inspection. 00 words, tables & fig.)

939 625 .213 (.73)
lway Mechanical Engineer, No. 2, February, p. 59.
arber freight-car snubber. (300 words & fig.)

939 625 .213 (.73)
lway Mechanical Engineer, No. 2, February, p. 59.
riction bolster spring. (400 words & fig.)

939 621 .133.8 (.73)
lway Mechanical Engineer, No. 2, February, p. 60.
A new locomotive sander pipe end. (200 words & fig.)

939 625 .26 (.73)
lway Mechanical Engineer, No. 2, February, p. 65.
McFADDEN (G. F.). — Wheel work at the Roanoke shops. (1 300 words & fig.)

939 625 .26 (.73)
lway Mechanical Engineer, No. 2, February, p. 68.
reight car dismantling methods on the Rock Island. 500 words & fig.)

1939 621 .7 (.73)
Railway Mechanical Engineer, No. 2, February, p. 71.
Railroad applications of the metal-spray process. (2 500 words & fig.)

1939 621 .138.3 (.73)
Railway Mechanical Engineer, No. 2, February, p. 75.
Boilers blown down and refilled through steam dome. (900 words & fig.)

Railway Signaling. (Chicago.)

1939 656 .254 (.73)
Railway Signaling, February, p. 77.
Remote control on the Union Pacific. (1 500 words & fig.)

1939 656 .255 (.73)
Railway Signaling, February, p. 80.
MOLLOY (J. H.). — C. T. C. and automatic signals on the Rock Island. (4 300 words & fig.)

1939 656 .251
Railway Signaling, February, p. 87.
WOOLEY (G. F.). — Phantom indications in color-light signals. (1 000 words & fig.)

1939 656 .258 (73)
Railway Signaling, February, p. 89.
Electric interlocking on the New Haven. (800 words & fig.)

1939 625 .143.4 & 656 .256
Railway Signaling, February, p. 91.
BOVARD (W. P.). — Recent developments in rail bonding. (1 500 words & fig.)

South African Railways and Harbours Magazine. (Johannesburg.)

1939 385. (091 (.68)
South African Railways & Harbours Magazine, January, p. 41.
SIMMS (Ed.). — Transport in the Union of South Africa. (3 000 words.)

1939 625 .111 (.68)
South African Railways & Harbours Magazine, February, p. 151.
Lowering the line at Jeppe. Magnificent engineering achievement. (2 200 words & fig.)

The Locomotive. (London.)

1939 621 .135.1
The Locomotive, No. 558, February 15, p. 31.
Cast steel frames. (1 100 words.)

1939 621 .132.8 (.68)
The Locomotive, No. 558, February 15, p. 33.
South African Railways. New Beyer-Garratt locomotives. (400 words.)

1939 **621 .43 (.42) & 621 .8 (.42)**
The Locomotive, No. 558, February 15, p. 33.
Institution of Locomotive Engineers. **Diesel train with multiple axle drives.** (1 800 words.)

1939 **621 .132.3 (.42 + .73)**
The Locomotive, No. 558, February, p. 35.
The Coronation Scot. New York world's fair. 1939. (3 200 words & fig.)

1939 **621 .132.5 (.945)**
The Locomotive, No. 558, February 15, p. 40.
« X » class 2-8-2 **locomotives.** (1 000 words & fig.)

1939 **621 .135.4 (.945)**
The Locomotive, No. 558, February 15, p. 45.
Fabricated locomotive trailing trucks. (500 words & fig.)

1939 **656 .222.1**
The Locomotive, No. 558, February 15, p. 48.
IGEL (M.). — **Haulage performances of locomotives.** (3 600 words.)

1939 **621 .133.8**
The Locomotive, No. 558, February 15, p. 59.
Notes on **sander design.** (1 900 words & fig.)

The Oil Engine. (London.)

1939 **621 .43 (.73)**
The Oil Engine, No. 70, February, p. 305.
MANN (Ch. F. A.). — **Three 7 800-b.h.p. locomotives.** (500 words & fig.)

1939 **621 .43 (.43)**
The Oil Engine, No. 70, February, p. 319.
New German three-unit 100-m.p.h. train. (200 words & fig.)

Transit Journal. (New York.)

1939 **625 .4 (.73)**
Transit Journal, February, p. 48.
Subway Stations in the modern manner. Extension of the Broad Street Subway to Snyder Avenue. (1 000 words & fig.)

In Italian.

La tecnica professionale. (Firenze.)

1939 **385 .113 (.45)**
La tecnica professionale, febbraio, p. 25.
I grafici della **relazione annuale** delle Ferrovie dello Stato. (2 800 parole & fig.)

1939 **621 .13**
La tecnica professionale, febbraio, p. 29.
GIOBBE (P.). — **Cannotti di acciaio dolce spec** per **tubi bollitori.** (2 600 parole & fig.)

1939 **621 .13**
La tecnica professionale, febbraio, p. 35.
BIANCHI (O.). — **La linea degli eccentrici fit** nelle **distribuzioni a cassetto ed a settore.** (2 400 pa & fig.)

L'Ingegnere. (Roma.)

1939 **621**
L'Ingegnere, gennaio, p. 34.
VANNOTTI (P.). — **La sovralimentazione** dei mo Diesel per le automotrici. (1 200 parole & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 **656**
Trasporti e lavori pubblici, gennaio, p. 1.
ZANETTE (C.). — **Ragioni dell' aumento delle tar ferroviarie.** (2 100 parole.)

1939 **656 (**
Trasporti e lavori pubblici, gennaio, p. 9.
VEZZANI (F.). — **L'autarchia della trazione** trasporti terrestri. (7 000 parole.)

1939 **385 (**
Trasporti e lavori pubblici, gennaio, p. 18.
VELANI (L.). — **La trazione ferroviaria e l'au chia.** (6 300 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 **656 .256.3 (.4**
De Ingenieur, nr 5. 3 Februari, p. V. 1.
VERSTEGEN (J. H.). — **Automatisch blokstelse** geëlectrificeerde baanvakken van de Nederland Spoorwegen. (7 800 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

1939
Spoor- en Tramwegen, nr 3. 31 Januari, p. 58.
WESTENDORP (F.). — **De toekomst der ijz wegen.** (5 400 woorden.)

1939 **621**
Spoor- en Tramwegen, nr 4, 14 Februari, p. 81.
Moet en kan de locomotief een naam dragen ? (1 woorden & fig.)

)39 625 .258 & 625 .62
or- en Tramwegen, nr 4, 14 Februari, p. 91.
OLDIJK (S. S.). — Berekening en toepassing van tromagnetische railremmen voor electrische tramigen. (2 000 woorden & fig.)

)39 725 .31 (.492)
or- en Tramwegen, nr 4, 14 Februari, p. 94.
et nieuwe stationsgebouw Utrecht C. S. (900 woor- & fig.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa.)

)39 385 .113 (.438) = 91 .885
ynier Kolejowy, No. 1. p. 4.
OPUSZYNSKI (M.). — Present general economic tion in Poland, and operating results of the Polish te Railways. (9 700 words & tables.)

)39 385. (091 (.438) = 91 .885
ynier Kolejowy, No. 1, p. 15.
ISZKE (A.). — Railway extensions and improvets in Poland. (12 000 words.)

)39 621 .13 (.438) = 91 .885
ynier Kolejowy, No. 1, p. 27.
ASILEWSKI (S.). — Development and improvet of the railway rolling stock. (11 600 words.)

1939 385. (091 (.438) = 91 .885
Inzynier Kolejowy, No. 1, p. 39.
KRZYZANOWSKI (T.). — The trend of railway workshop organisation. (8 600 words.)

1939 385 .4 (.438) = 91 .885
Inzynier Kolejowy, No. 1, p. 50.
CYWINSKI (B.). — Organisation of the Polish State Railways. (7 500 words.)

1939 656 .2 (.438) = 91 .885
Inzynier Kolejowy, No. 1, p. 58.
TUZ (A.). — Improved train running and transport. (11 000 words & tables.)

In Portuguese.

Revista das Estradas de ferro. (Rio de Janeiro.)

1938 656
Revista das Estradas de ferro, nº 322. 15 de dezembro. p. 2182.
Coordenação de transportes. (2 400 palavras.)

1939 656
Revista das Estradas de ferro, nº 324. 15 de janeiro. p. 2216.
Coordenação de transportes. (2 200 palavras.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(MAY 1939)

016. 385. (02]

I. — BOOKS.

In French.

38 621 .13 (02

NRY (M. E.).

ours de locomotives.

aris, Léon Eyrolles. 1 volume (17 × 22), 358 pages 14 figures.

---

939 385. (02

I (R.).

ours de chemins de fer. 3e partie : Superstructure, etien et surveillance de la voie et des bâtiments.

aris, Dunod. 1 volume, 152 pages et 77 figures. (Prix: r. français.)

In German.

38 621 .135.4 & 625 .215

KER (Paul), Dr. Ing.

n der Spurführung bei Gleisfahrzeugen in Bögen.

öln-Lindenthal, Ernst-Stauf-Verlag. 1 Band, 191 en. (Preis : 10 R. M.)

---

38 621 .43

eselmaschinen VII.

rlin, VDI-Verlag. 1 Band, 155 Seiten und 276 rn. (Preis : 6 R. M.)

---

38 62. (01

YER (G.).

stigkeitslehre und Elastizitätslehre.

pzig, Dr. M. Jänecke. 1 Band, 95 Seiten und 100 ldungen. (Preis : 3.80 R. M.)

---

39 62. (01

YER (G.).

rmelsammlung zur Festigkeitslehre und Elastizi- ehre.

pzig, Dr. M. Jänecke. 1 Band, 154 Seiten und ldungen. (Preis : 2.95 R. M.)

1938 621 .335 (.43)

LOTTER (G.).

Die elektrischen Lokomotiven der Deutschen Reichsbahn. 2. Teil.

Darmstadt und Leipzig, Verkehrswissenschaftliche Lehrmittelgesellschaft, m. b. H. 1 Band, 60 Seiten und 21 Bildtafeln. (Preis : 2.25 R. M.)

1937 691 (.494) & 721 .9 (.494)

RŮS (M.), Dr. Ing.

Versuche und Erfahrungen an ausgeführten Eisenbeton-Bauwerken in der Schweiz.

Zürich. Laboratoire fédéral d'essais des matériaux. 1 Band (24 × 32 cm.), 400 Seiten und Abbildungen.

1939 656 .23

SPIESS (W.).

Der Eisenbahntarif und seine Beeinflussung durch die konkurrierenden Verkehrsmittel.

Stuttgart, W. Kohlhammer. 1 Heft. 20 Seiten. (Preis : 0.90 R. M.)

In English.

1939 3. (06 (.73)

ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, March.

Appraising the Social Security Program. A series of 24 articles designed to set forth the work accomplished under the Social Security Act and to furnish a background for evaluation of proposed changes.

Philadelphia, Pa. : The American Academy of Political and Social Science, 3457 Walnut street. 277 pages. (Price : $ 2.00.)

1939 621 .1 (093)

DICKINSON (H. W.).

A short history of the steam engine.

Cambridge : Cambridge University Press. 255 pp. + XVI pp. (9 3/4 in. × 6 in. × 1 in.). Illustrated. (Price : 15 s. net.)

1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. Weissenbruch, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 609).

1939 **625 .7 (.73)**

Engineering News Record, Vol. 122, No. 9, March 2.

Annual highway number. — A series of reports on **highway construction,** statistics, etc., including review of new construction equipment.

New York : 330, West 42nd street. (Price : 25 c.)

1939 **659. (.42**

Facts about British Railways.

London : The British Railways' Press Office, 2, Caxton Street, Westminster, S. W. 1. 32 pp. (No price stated.)

1939 **625 .7**

GREGORY (J. W.).

The story of the road : from the beginning to the present day. (Revised and enlarged by C. J. Gregory.)

London : Adam & Charles Black Limited, 4-6, Soho Square, W. 1. (8 3/4 in. × 5 1/2 in. × 1 1/4 in.), 306 pp., illustrated. (Price : 7 s. 6 d.)

1938 **385. (092**

HUNGERFORD (E.).

Daniel Willard rides the line — the story of a great railroad man.

New York : G. P. Putnam's Sons. Cloth, 6 × 9 in., 301 pp., illustrated. (Price : $ 3.50.)

1939 **665 .882**

KEHL (R. J.).

Oxyacetylene Welding. Revised by M. H. Potter.

Chicago : American Technical Society. Cloth, 6 × 9 in., 130 pp., illustrated, diagrams, tables. (Price : $ 1.25.)

1939 **385 & 656**

MODERN TRANSPORT, London.

Special Overseas and Trade Issue (February 25, 1939) containing a series of articles on transport, by leading executives of Great Britain, India, Dominions and Colonies, and South America. 52 pages, profusely illustrated. (Price : 3 d.)

1938 **385 .11 (.73)**

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.

Report of Special Committee on **Depreciation** submitted to the National Association of Railroad and Utilities Commissioners at its fiftieth annual convention in New Orléans, La., Nov. 15-18, 1938

New York : State Law Reporting Co. Paper, 6 × 9 in., 85 pp., charts, tables. (Price : $ 1.50.)

1939 **621 .13 (06**

Railway Fuel & Travelling Engineers' Proceed

Published by the Association.

Chicago : C. Duff Smith, secretary-treasurer, 125 Colony building. Bound in imitation leather and prising 268 pages, 6 in. × 9 in. (Price : $ 2.)

1939 **347 .762 (.42) & 656 .1 (**

ROBINSON (G. E.).

Control of road transport in Great Britain.

London : Modern Transport Publishing Co. Norman House, 105-109, Strand, W. C. 2. (7 1/4 i 4 3/4 in.), 48 pp. (Price : 1 s. net.)

1939

J. F. Sutherland's first aid to injured and sick.

Edinburgh : E. & S. Livingstone, 16/17, Teviot P 64 pp. (4 1/4 in. × 2 3/4 in.). Illustrated. Paper co (Price : 6 d. net.)

1939 **621 .392**

The Welding Encyclopedia. Ninth edition.

Chicago : The Welding Engineer Publishing Co., S. Dearborn street, 696 pages (5 5/8 in. × 8 3/4 (Price : $ 5.)

1939 **621**

von BONGART (B. J.).

Diesel engines.

London : Chapman & Hall Limited, 11, Henr street, W. C. 2. 335 pp. (9 1/4 in. by 6 1/4 in. by 1 Illustrated. (Price : 21 s. net.)

1939 **385. (.71 +**

WILGUS (W. J.).

The **Railway interrelations** of the United States Canada.

New Haven, Conn. : The Yale University Press pp. (9 3/4 in. × 6 1/2 in.). Bound in cloth. (Pr $ 3.00.)

In Portuguese.

1938 **385. (08 (**

ADMINISTRAÇAO DOS SERVIÇOS DOS POR CAMINHOS DE FERRO E TRANSPORTES COLONIA DE MOÇAMBIQUE.

Relatorio do ano económico de 1935-1936 (18 me Lourenço Marquês. Administraçao dos Serviços Portos. 1 volume, 235 páginas e figuras.

016. 385. (05]

II. — PERIODICALS.

In French.

Annales des Ponts et Chaussées (Paris).

938 **624 .2**

nales des ponts et chaussées, novembre, p. 599.
ÉRIAUX (A.). — Etude analytique et graphique des tres-échelle. (3 300 mots & fig.)

Bulletin de la Société d'encouragement pour l'industrie nationale. (Paris.)

939 **665 .882**

l. de la Sté d'encouragement pour l'indust. nationale, janvier-février, p. 17.
RANION (R.). — L'évolution d'un procédé d'assemge, la **soudure autogène.** (3 900 mots & fig.)

939 **665 .882**

l. de la Sté d'encouragement pour l'indust. nationale, janvier-février, p. 33.
ERBEAUX (H.). — La **soudure autogène** dans la struction métallique. (6 700 mots & fig.)

939 **62. (01 & 665 .882**

l. de la Sté d'encouragement pour l'indust. nationale, janvier-février, p. 79.
EROY (A.). — Le contrôle des **soudures.** (6 200 mots ig.)

Bulletin de la Société des ingénieurs civils de France. (Paris.)

939 **385. (.44)**

l. de la Soc. des ing. civ. de France. fascicule 4, p. 99.
uelques **problèmes de chemin de fer.** Leur solution s le cadre de la Société nationale des chemins de fer ıçais. (4 700 mots.)

Bulletin de l'Union Internationale des chemins de fer. (Paris.)

939 **385. (09 (.437)**

l. de l'Union intern. des ch. de fer, février, p. 37.
'influence des récentes modifications de frontières Europe Centrale sur les **grandes voies de communion par chemin de fer.** (2 400 mots & carte.)

939 **385. (09 (.52)**

l. de l'Union intern. des ch. de fer, février, p. 42.
es **chemins de fer de l'Etat japonais.** (5 900 mots.)

939 **385 .113 (.497.2)**

l. de l'Union intern. des ch. de fer, février, p. 55.
es **Chemins de fer de l'Etat bulgare** en 1937. (3 900 s.)

1939 **621 .33 (.44)**

Bull. de l'Union intern. des ch. de fer, février, p. 63.
L'électrification de la ligne de Paris à Bordeaux. (4 400 mots.)

1939 **625 .4 (.47)**

Bull. de l'Union intern. des ch. de fer, février, p. 69.
L'extension du **chemin de fer métropolitain** de Moscou. (1 300 mots & carte.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1939 **385 .62 & 385 .63**

Bull. des transp. intern. par ch. de fer, février, p. 39.
FRIEBE. — Etude sur le problème de la revision des **Conventions internationales concernant** les transports par chemins de fer (CIM et CIV). (3 000 mots.)

1939 **385 .62 & 385 .63**

Bull. des transp. intern. par ch. de fer, février, p. 47.
HERMANN (W.). — La structure des futures **CIV** et **CIM.** (2 600 mots.)

1939 **313 .385 (.47.5)**

Bull. des transp. intern. par ch. de fer, février, p. 71.
Les **Chemins de fer de l'Etat lithuanien** pendant les exercices 1933 à 1937. (1 700 mots.)

Bulletin technique de l'Association des Ingénieurs sortis de l'Ecole Polytechnique de Bruxelles. (Bruxelles.)

1938 **621 .392 & 624 .92**

Bull. tech. de l'Ass. des Ing. sortis de l'Ecole Polytechn. de Bruxelles, n° 7, p. 205.
ROSENTHAL (D.) & LEVRAY (P.). — Etude de la forme rationnelle du raccord dans un nœud formé par deux barres assemblées à angle droit. (2 200 mots & fig.)

Economie et technique des transports. (Lucerne).

1939 **625 .62**

Economie et technique des transports, février, p. 14.
STETZA (G.). — Avantages et inconvénients du service par **motrices jumelées dans l'exploitation de tramways.** (1 800 mots & fig.)

1939 **625 .2 (.494)**

Economie et technique des transports, février, p. 19.
HUG (A. M.). — **Nouveau matériel roulant léger** de chemins de fer en Suisse. (800 mots & fig.)

France-Transports. (Paris.)

1939 **385 .1 (.42)**

France-Transports, 1er février, p. 9.

ABEL (E.). — Les **chemins de fer anglais** en 1938. (1 900 mots.)

1939 **656**

France-Transports, 1er mars, p. 12.

JACQUOT (L. R.). — **Transports combinés rail et route.** (4 000 mots.)

1939 **656 .225**

France-Transports, 1er mars, p. 21.

MOTTET (J.). — **Accélération des transports de marchandises par voie ferrée.** (2 200 mots.)

Génie civil. (Paris.)

1939 **656 .225 (.43) & 656 .261 (.43)**

Génie civil, n° 2951, 4 mars, p. 189.

GUICHETEAU (G.). — **Matériel routier à bogies remorqués par tracteur**, employé en Allemagne pour le transport de wagons et grosses pièces. (6 500 mots & fig.)

1939 **621 .89**

Génie civil, n° 2951, 4 mars, p. 195.

CHARRON (F.). — Le **frottement** onctueux et sa mesure au moyen d'un « onctuosimètre ». (3 700 mots & fig.)

1939 **621 .392 (.493) & 624 .62 (.493)**

Génie civil, n° 2951, 4 mars, p. 201.

Considérations relatives aux causes de la **rupture du pont de Hasselt**, en Belgique. (1 300 mots & fig.)

La construction métallique. (Bruxelles.)

1939 **621 .43 (.493)**

La construction métallique, février, p. 3.

La construction des **moteurs Diesel** en Belgique. (15 000 mots & fig.)

La Technique moderne. (Paris.)

1939 **669 .1**

La Technique moderne, 1er mars, p. 173.

PORTEVIN (A.). — Méthodes classiques d'élaboration des **aciers fins** au four à arc basique. (1 300 mots.)

1939 **621 .43 (.4)**

La Technique moderne, 1er mars, p. 190.

Le développement des **autorails rapides** en Europe. (200 mots, 1 tableau & fig.)

1939 **621 .43 (.8)**

La Technique moderne, 1er mars, p. 190

La **traction Diesel** en Amérique du Sud. (700 mots & fig.)

L'Economie internationale. (Paris.)

1939

L'Economie internationale, février, p. 25.

L'avenir des **tarifs ferroviaires et routiers.** Libert contrôle .(2 600 mots.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **388. (**

L'Ind. des voies ferrées et des transp. autom., jan. p. 6.

VENTE. — Un exemple remarquable de **coord tion** : Les transports urbains de Buenos-Ayres. (mots & fig.)

L'Ossature métallique. (Bruxelles.)

1939 **62**

L'Ossature métallique, février, p. 83.

HUSSEY (H. D.). — Cadres rigides pour **pont** bâtiments. (2 200 mots & fig.)

1939 **624 .32 (**

L'Ossature métallique, février, p. 88.

Le **pont** de marine Parkway à New York. (1 800 & fig.)

1939 **624.**

L'Ossature métallique, février, p. 92.

Vœux émis par l'**Association Internationale des P et Charpentes.** (A. I. P. C.) à son deuxième con (3 600 mots.)

1939 **62**

L'Ossature métallique, février, p. 99.

NICOLSKY (V. A.). — Des efforts verticaux sant sur l'âme d'une **poutre fléchie.** (1 300 mots &

1939 **621 .392 (.493) & 624 (.**

L'Ossature métallique, février, p. 101.

Etat actuel des recherches relatives aux cause l'**accident du pont de Hasselt.** (1 300 mots & fig.)

1939 **624 .51 (.71 +**

L'Ossature métallique, mars, p. 125.

Le **pont international** des « Mille-Iles » entre le C da et les Etats-Unis. (900 mots & fig.)

1939 **62**

L'Ossature métallique, mars, p. 141.

RIESSAUW (F.). — Les nœuds des **charpentes talliques.** (2 500 mots & fig.)

1939 **621 .392 & 665**

L'Ossature métallique, mars, p. 151.

RUCQUOI (L.). — Les progrès techniques en **struction soudée.** (3 600 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1939 **625 .172**

Vue générale des chemins de fer, 1er mars, p. 160.
MAUZIN. — Description d'une voiture permettant ffectuer, à grande vitesse, **l'auscultation des voies chemins de fer.** (4 300 mots & fig.)

1939 **385. (07.1 (.44)**

Vue générale des chemins de fer, 1er mars, p. 172.
BERTRAND. — Une nouvele méthode rationnelle de mation **des apprentis.** (1 800 mots & fig.)

1939 **385.4 (.65)**

Vue générale des chemins de fer, 1er mars, p. 178.
GLOSSET (P.). — Les **chemins de fer algériens.** (3 600 ts.)

1939 **621 .43**

Vue générale des chemins de fer, 1er mars, p. 184.
CHATEL. — La **suralimentation dans les moteurs** esel. Applications aux moteurs d'autorails et de locotives Diesel. (9 300 mots & fig.)

1939 **621 .135.2 & 625 .212**

Vue générale des chemins de fer, 1er mars, p. 201.
LEBON. — Recherche des fissures **dans les fusées** ssieux. (2 000 mots & fig.)

1939 **625 .154 (.44)**

Vue générale des chemins de fer, 1er mars, p. 207.
Pont tournant « secteur » de Port-Vendres. (500 mots fig.)

In German.

Glasers Annalen. (Berlin.)

1939 **625 .251**

sers Annalen, Heft 3, 1. Februar, S. 27.
HAIDUK (H.). — Der Einfluss der **Bremszylinder**lzeit **und der Durchschlagszeit auf den Bremsweg.** 300 Wörter & Abb.)

1939 **621 .335 (.43)**

sers Annalen, Heft 3, 1. Februar, S. 31.
Leistungsfähigste **einrahmige Einphasenlokomotive** Welt. (400 Wörter & Abb.)

1939 **531**

sers Annalen, Heft 4, 15. Februar, S. 37.
GEIGER (J.). — Über den Einfluss der verhältnisssigen Grösse der Einzelmassen auf die Stärke von **tischen Drehzahlen.** (4 700 Wörter & Abb.)

1939 **621 .134.1**

sers Annalen, Heft 4, 15. Februar, S. 44.
ZIMMERMANN (F.). — **Gekröpfte Lokomotivach**. (2 900 Wörter & Abb.)

1939 **625 .214 (.43)**

sers Annalen, Heft 4, 15. Februar, S. 46.
NACHTWEY. — **Zusätzliche Stellkeilsicherung** in vinghaus-Wagenachslagern. (900 Wörter & Abb.).

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **656 .22**

Organ für die Fortschr. des Eisenbahnw., Heft 5, 1. März, S. 83.
NORDMANN. — Die **Laufsicherheit geschobener Züge** nach Untersuchungen mit dem Schwingungsmesswagen. (5 600 Wörter & Abb.)

1939 **621 .135.4**

Organ für die Fortschr. des Eisenbahnw., Heft 5, 1. März, S. 90.
HEUMANN. — Das Einfahren von 1' E 1' — Lokomotiven mit vorderem und hinterem Eckhardt-Gestell in **Gleisbögen.** (4 200 Wörter & Abb.)

Verkehrstechnische Woche. (Berlin.)

1939 **656 .225 (.73) & 656 .261 (.73)**

Verkehrstechnische Woche, Heft 10, 8. März, S. 111.
BAUR (H.). — Amerikanische **Kühlbehälter.** (900 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1939 **62. (01 & 691**

Zeitschr. des Ver. deutsch. Ing., Nr. 9, 4. März, S. 275.
EMPERGER (F. von). — Die Dehnfähigkeit der **Querbewehrungen im Eisenbeton.** (1 800 Wörter & Abb.)

1939 **621 .335 (.43)**

Zeitschr. des Ver. deutsch. Ing., Nr. 9, 4. März, S. 280.
Elektrische Schnellzuglokomotive für 180 km/h. (500 Wörter & Abb.)

1939 **621 .89**

Zeitschr. des Ver. deutsch. Ing., Nr. 10, 11. März, S. 307.
DIES (K.). — Die Vorgänge beim Verschleiss bei rein gleitender trockener **Reibung.** (5 600 Wörter & Abb.)

1939 **536**

Zeitschr. des Ver. deutsch. Ing., Nr. 10, 11. März, S. 315.
SCHMIDT (E.). — Fortschritte der **wärmetechnischen Forschung.** (3 800 Wörter.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **625 .251**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 3, 20 Februar, S. 27.
BESSER (F.). — Über die Grenzen der **Bremswirkung bei Schienenbahnen.** (2 900 Wörter & Abb.)

1939 **656 .256.3 (.43)**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 3, 20. Februar, S. 30.
CHAUSSETTE (G.). — Die **halbselbsttätigen Signale** der Berliner S-Bahn. (2 600 Wörter & Abb.)

1939 **656 .212.5 & 656 .259**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 4, 10 März, S. 37.

SCHMITZ (W.). — **Gleismelder** mit Altersstufen. (2 900 Wörter & Abb.)

1939 **656 .253**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldewesen, Nr. 4, 10. März, S. 41.

BIESOK (W.). — Zur Frage des **Flankenschutzes.** (3 200 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **621 .335 (.494)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 8, 23 Februar, S. 181.

MÜLLER (W.). — **Elektrische Doppellokomotiven** der Schweizerischen Bundesbahnen. (2 900 Wörter & Abb.)

1939 **659. (.43)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 8, 23 Februar, S. 186.

MÜLLER-HILLEBRAND. — Das **Eisenbahn-Filmwesen.** (3 400 Wörter & Abb.)

1939 **656 .225 (.492) & 656 .261 (.492)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 8, 23 Februar, S. 191.

Die **Autoladekiste** der Niederländischen Eisenbahnen. (1 000 Wörter & Abb.)

1939 **656 .1 (.43)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 9, 2 März, S. 199.

TRIERENBERG. — Organisation und Entwicklung des **Kraftverkehrs** der Deutschen Reichsbahn. (7 800 Wörter.)

1939 **656 .212.6**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 10, 9. März, S. 222; Nr. 11, 16. März, S. 244.

FOLTZ (W.). — **Förderband- oder Karranlage.** (7 600 Wörter.)

1939 **656 (.51)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 11, 16. März, S. 233

LOCHOW (von). — **Südwestchinesische Verkehrsprobleme.** (7 800 Wörter & Abb.)

In English.

Engineer. (London.)

1939 **621 .13 (0 (.42 + .73) & 656 .222.1 (.42 + .73)**

Engineer, No. 4338, March 3, p. 272 and No. 4339, March 10, p. 302.

LIVESAY (E. H.). — North American and English **locomotive experiences.** (9 400 words & fig.) (To be continued.)

1939 **621**

Engineer, No. 4338, March 3, p. 279.

MEYER (A.). — **The combustion-gas-turbine.** (Pa and discussion.) (4 000 words.)

1939 **621 .132.8 (.73) & 621 .335 (.**

Engineer, No. 4338, March 3, p. 286.

An American **turbo-electric locomotive.** (2 200 wo & fig.)

1939

Engineer, No. 4339, March 10, p. 312.

Collapsible tube cores for concrete pipes. (800 wo & fig.)

1939 **385 .11 (.**

Engineer, No. 4339, March 10, p. 316.

The British Railways. — **A statistical survey.** (4 words.) (To be continued.)

1939 **621 .13**

Engineer, No. 4339, March 10, p. 319.

STANIER (W. A.). — Problems connected with lo **motive design.** (4 600 words & fig.)

1939 **621 .43 (.**

Engineer, No. 4339, March 10, p. 321.

An oil-engined locomotive for Peru. (1 200 word fig.)

1939 **62.**

Engineer, No. 4339, March 10, pp. 323 and 324 No. 4340, March 17, p. 355.

TOMLINSON (G. A.), THORPE (P. L.) and GOU (H. I.). — The fretting **corrosion of closely fitting s faces.** — Abstract of a paper read before the Institut of Mechanical Engineers, London, and discussion. (12 words & fig.)

1939 **669**

The Metallurgist, p. 4, supplt. to the Engineer, Febr. **The effect of arsenic on steel.** (2 500 words & fig.)

1939 **669**

The Metallurgist, p. 13, supplt. to the Engineer, Febr. **Chromium-molybdenum steels.** (1 400 words & tabl

---

Engineering. (London.)

1939 **656 .283 (.**

Engineering, No. 3814, February 17, p. 197.

The **railway accident** at Wishaw. (800 words.)

1939 **625**

Engineering, No. 3814, February 17, p. 200.

INGLIS (C. E.). — The **vertical path of a wh moving along a railway track.** (2 000 words.)

1939 **621**

Engineering, No. 3814, February 17, p. 201.

BURNESS (T. P. N.). — The **production of accur bores** by fine boring, grinding, honing, and lapp (2 800 words & fig.)

939 621 .4
ineering, No. 3816, March 3, pp. 247 and 256.
EYER (A.). — **The combustion gas turbine.** (7 600 is.)

939 621 .392 & 624 (0 (.493)
ineering, No. 3816, March 3, p. 258.
he Hasselt bridge collapse. (1 500 words & fig.)

939 625 .2 (0 & 625 .22
ineering, No. 3816, March 3, p. 261.
AVIES (Dr. R. D.). — The lateral oscillation of way vehicles. (6 000 words & fig.)

939 625 .144.1 (.42)
ineering, No. 3816, March 3, p. 266.
aying 300-ft. rails on the Northern line of the Lon- Passenger Transport Board. (400 words.)

939 62. (01
ineering, No. 3817, March 10, pp. 281 & 293.
OMLINSON (G. A.), THORPE (P. L.) and GOUGH J.). — **Fretting corrosion.** (Paper read before the itution of Mechanical Engineers.) (9 000 words &

939 699. (.42)
ineering, No. 3817, March 10, p. 285.
echanical stoking on board ship. (800 words.)

939 623
ineering, No. 3817, March 10 p. 288
ngineering precautions against air raids. (700 words.)

939 621 .116
ineering, No. 3817, March 10, p. 289.
hemical engineering in steam generation. (1 600 ds.)

939 621 .116
ineering, No. 3817, March 10, p. 293.
Threshold » treatment for scale prevention.

Engineering News-Record. (New York.)

939 625 .111 (.73)
ineering News-Record, No. 7, February 16, p. 48.
outhern Pacific relocates Canyon line. (700 words ig.)

939 624 .1 (.71)
ineering News-Record, No. 7, February 16, p. 51.
onvertible caissons for bridge piers. (600 words &)

939 62. (01 (.73) & 725 (.73)
ineering News-Record, No. 7, February 16, p. 57.
arthquake bracing for a tall building. (1 400 words ig.)

939 62. (01 (.73) & 624. (0 (.73)
ineering News-Record, No. 7, February 16, p. 62.
ests of large riveted joints. (1 500 words.)

1939 62. (01 (.73)
Engineering News-Record, No. 7, February 16, p. 63.
ENEY (W. J.). — **New deformeter apparatus** (for structural models). (700 words & fig.)

1939 624 .62 (.73)
Engineering News-Record, No. 7, February 16, p. 68.
FRIEDLAND (J. M.). — **Long span tied arch** in elevated highway. (1 900 words & fig.)

Journal, Institute of Transport. (London.)

1939 656 .1
Journal, Institute of Transport, March, p. 187.
REDMAN (Col. A. S.). — **Passenger transport by road in relation to railway services.** (Paper and discussion.) (18 000 words.)

1939 656
Journal, Institute of Transport, March, p. 205.
SHERRINGTON (C. E. R.). — **Current transport problems.** (5 000 words.)

Journal, Institution of Civil Engineers. (London.)

1939 621 .135 (01 & 625 .22
Journal, Institution of Civil Engineers, March, p. 224.
DAVIES (R. D.). — Some experiments on the **lateral oscillation of railway vehicles.** (13 000 words & fig.)

1939 621 .135 (01 & 625 .2 (0
Journal, Institution of Civil Engineers, March, p. 262.
INGLIS (Ch. E.). — **The vertical path of a wheel moving along a railway track.** (Paper and discussion.) (9 500 words & fig.)

1939 624 .5
Journal, Institution of Civil Engineers, March, p. 289.
ATKINSON (R. J.) and SOUTHWELL (R. V.). — On the **problem of stiffened suspension-bridges**, and its treatment by relaxion methods. (Paper and discussion.) (13 500 words & fig.)

1939 62. (01 & 624
Journal, Institution of Civil Engineers, March, p. 363.
BAILEY (A.) and VINCENT (N. D.). — **Wind-pressure** experiments at the Severn bridge. (4 100 words & fig.)

Journal, Institution of Engineers, Australia. (Sydney, N. S. W.)

1939 624 .52 (.944)
Journal, Institution of Engineers, Australia, January, p. 1.
HOLT (J. A.). — **Story Bridge**, Brisbane. (12 500 words & fig.)

Journal, Permanent Way Institution. (London.)

1938 **625 .13 (.42)**
Journal, Permanent Way Institution, December, p. 245.
ALEXANDER (H. A.). — **The Severn Tunnel.** — Its care and maintenance. (4 300 words & fig.)

1938 **625 .144.4 (.42) & 625 .15 (.42)**
Journal, Permanent Way Institution, December, p. 258.
PERFECT (A.). — **The assembly and relaying of points and crossings by steam crane.** (3 500 words.)

1938 **621 .33 (.54) & 625 .17 (.44)**
Journal, Permanent Way Institution, December, p. 267.
HARBEN (J. E.). — **The electrified area** of the South Indian Railway **and its maintenance.** (5 000 words.)

1938 **625 .13 (.42)**
Journal, Permanent Way Institution, December, p. 279.
DRIVER (E. F.). — **The reconstruction of main line bridges under traffic.** (3 200 words & fig.)

1938 **625 .13 (.42) & 625 .173 (.73)**
Journal, Permanent Way Institution, December, p. 292.
DUGAY (S.). — **Re-railing and renewal of track in tunnels,** with 180-ft. rails. (2 500 words.)

Journal and Proceedings, Institution of Mechanical Engineers. (London.)

1939 **614 .8 (.42)**
Journal, Institution of Mechanical Engineers, March, p. 14.
Safety provisions of the New Factories Act. (6 600 words.)

1939 **621 .82**
Journal, Institution of Mechanical Engineers, March, p. 20.
Plastics for bearings. (2 000 words.)

1939 **621 .7**
Journal, Institution of Mechanical Engineers, March, p. 22.
WHITE (A. J.). — **Drop forging and stamping.** (4 800 words & fig.)

1939 **621 .9**
Proceedings, Institution of Mechanical Engineers, March, p. 17.
Symposium of papers on **machine tool practice** by various Authors, and their discussion. (42 000 words & fig.)

Mechanical Engineering. (New York.)

1939 **62. (01 & 621 .116**
Mechanical Engineering, March, p. 199.
STRAUB (F. G.) and NELSON (E. E.). — **Corrosion** in partially dry steam-generating tubes. (2 500 words & fig.)

1939 **621**
Mechanical Engineering, March, p. 213.
BÜCHI (A. J.). — Personal reflections on forty y of **diesel-engine development.** (4 000 words & fig.)

1939 **621**
Mechanical Engineering, March, p. 217.
HODGKINSON (Fr.). — Latest developments of **Benson boiler.** (4 600 words & fig.).

Modern Transport. (London.)

1939 **656 .234 (**
Modern Transport, No. 1040, February 18, p. 3.
CHAMBERS (J. C.). — **Intervailable ticket facil** Rail, road, sea and air travel. (2 000 words.)

1939 **623 (.42) & 625 .4 (**
Modern Transport, No. 1040, February 18, p. 4.
High-speed tubes. Scheme for combined use. (words & fig.)

1939 **621 .33 (.494) & 625 .3 (.**
Modern Transport, No. 1040, February 18, p. 5.
Electrification of Swiss rack railway. (1 000 v & fig.)

1939 **621 .**
Modern Transport, No. 1041, February 25, p. 23.
STANIER (W. A.). — Problems of **locomotive de** Factors leading to economy. (1 800 words.)

1939 **656**
Modern Transport, No. 1041, February 25, p. 28.
BOOT (J.). — **Economies in signalling.** New in relay interlocking. (1 100 words & fig.)

1939 **385 .113**
Modern Transport, No. 1042, March 4, p. 3.
Railway results for 1938. Depressing year, but lock not unfavourable. (1 400 words & tables.)

1939 **656 .254**
Modern Transport, No. 1042, March 4, p. 4.
BOOT (J.). — **Signalling and high-speed trains.** blem of automatic train control. (1 800 words.)

1939 **656**
Modern Transport, No. 1043, March 11, p. 2.
Road-rail co-operation. (1 000 words.)

1939 **656.**
Modern Transport, No. 1043, March 11, p. 3.
Transport in Northern Ireland . A travesty th becoming a tragedy. (2 100 words.)

1939 **656**
Modern Transport, No. 1043, March 11, p. 16.
Road-rail protagonists lunch together. Further on the new agreement. (1 600 words.)

Railway Age. (New York.)

1939 **621 .43 (.73) & 625 .232 (.73)**
Railway Age, No. 7, February 18, p. 296.
Seaboard air line inaugurates « Silver Meteor » train. (1 000 words & fig.)

1939 **625 .235 (.73)**
Railway Age, No. 7, February 18, p. 306.
Cork and rubber molded sound insulation. (1 000 words & fig.)

1939 **656 .212.7 (.73) & 725 .34 (.73)**
Railway Age, No. 7, February 18, p. 307.
Baltimore & Ohio builds modern-pier at Philadelphia. (1 000 words & fig.)

1939 **656 .1 (.73)**
Railway Age, No. 7, February 18, p. 310.
A 12 years highway subsidy is 10 billions. (A study in highway costs in the U. S. A. — Published by the A. A. R.) (1 100 words.)

1939 **621 .133 (.73)**
Railway Age, No. 8, February 25, p. 331.
Few boilers effect economies on the Missouri Pacific. (1 500 words & fig.)

1939 **625 .232 (.73)**
Railway Age, No. 8, February 25, p. 333.
Lehigh Valley distinctively styles « Asa Packer » in. (2 000 words & fig.)

1939 **656 .222.6 (.73)**
Railway Age, No. 8, February 25, p. 336.
Operating fast freight trains. Problems involved in applying the present day demands for prompt service. (1 500 words.)

1939 **625 .151 (.73) & 656 .25 (.73)**
Railway Age, No. 8, February 25, p. 339.
Spring switches and signalling on the **Southern.** (3 400 words & fig.)

1939 **656. (093 (.73) & 656 .261 (.73)**
Railway Age, No. 9, March 4, p. 365.
A century of express service. Railway Express Agency celebrates its first hundred years in the transportation field. (2 400 words & fig.)

1939 **656 (.73) & 656 .261 (.73)**
Railway Age, No. 9, March 4, p. 369.
How the Railway Express Agency has modernized its operations. (2 600 words & fig.)

1939 **625 .13 (.73)**
Railway Age, No. 9, March 4, p. 373.
KINNIE (F. D.). — **Restore concrete tunnel lining by « intrusion » process.** (3 200 words & fig.)

1939 **621 .131.1**
Railway Age, No. 9, March 4, p. 377.
BUCKWALTER (T. V.) and HORGER (O. J.). — **Steam locomotive slipping tests.** (5 300 words & fig.)

1939 **625 .11 (.73) & 625 .162 (.73)**
Railway Age, No. 10, March 11, p. 407.
Federal grade crossing program moves steadily forward. (4 500 words & fig.)

1939 **621 .13 (0 (.73)**
Railway Age, No. 10, March 11, p. 415.
Intensive locomotives use pays Union Pacific big returns. (2 200 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **621 .39 (.73) & 625 .174 (.73)**
Railway Engineering and Maintenance, March, p. 145.
Extensive yard installation of **electric switch heaters.** (400 words & fig.)

1939 **625 .144.4 (.73) & 656 .28 (.73)**
Railway Engineering and Maintenance, March, p. 146.
Work equipment — in times of disaster. (3 700 words & fig.)

1939 **625 .19 (.73)**
Railway Engineering and Maintenance, March, p. 150.
MILLS (E. H.). — New York Central localizes **work equipment repairs.** (4 400 words & fig.)

1939 **625 .144.4 (.73)**
Railway Engineering and Maintenance, March, p. 154.
Frisco modernizes its **work equipment.** (4 300 words & fig.)

1939 **625 .144.4 (.73)**
Railway Engineering and Maintenance, March, p. 158.
CLARKE (H. R.). — If we had no **work equipment.** (3 500 words & fig.)

Railway Gazette. (London.)

1939 **621 .133.8 (.42)**
Railway Gazette, No. 7, February 17, p. 255.
Screen-wipers for locomotives. (800 words.)

1939 **625 .172 (.42)**
Railway Gazette, No. 7, February 17, p. 263.
Weed-killing records. (600 words & fig.)

1939 **621 .13 (.73) & 656 .28 (.73)**
Railway Gazette, No. 7, February 17, p. 264.
Locomotive boiler explosions. (1 100 words.)

1939 **621 .132.8 (.73)**
Railway Gazette, No. 7, February 17, p. 265.
New American 4-6 + 6-4 articulated locomotives. (600 words & fig.)

1939 **625 .232 (.437)**
Railway Gazette, No. 7, February 17, p. 267.
New passenger rolling stock, Czecho-Slovak State Railways. (200 words & fig.)

1939 **625 .13 (.42)**
Railway Gazette, No. 7, February 17, p. 269.
The **reconstruction of Trenance viaduct,** G. W. R. The viaduct is being rebuilt for a double line, and as an arched instead of steel girder structure. (700 words & fig.)

1939 **656 .25 (.42)**
Railway Gazette, No. 8, February 24, p. 304.
Extensive **resignalling** on the Southern Railway. (3 800 words & fig.)

1939 **625 .252 (.42)**
Railway Gazette, No. 8, February 24, p. 311.
Improved electric tail lamp. (300 words & fig.)

1939 **621 .132.3 (.43)**
Railway Gazette, No. 8, February 24, p. 312.
New German **eight-coupled express locomotives.** (500 words & fig.)

1939 **656 .25 (0**
Railway Gazette, No. 8, February 24, p. 324.
The trend of signal engineering. (2 500 words.)

1939 **621 .8 (.494) & 625 .233 (.494)**
Railway Gazette, No. 9, March 3, p. 343.
Train-lighting generator transmission. (700 words & fig.)

1939 **625 .1 (.43)**
Railway Gazette, No. 9, March 3, p. 350.
Reichsbahn engineering works in 1938. (800 words.)

1939 **621 .132.8 (.66)**
Railway Gazette, No. 9, March 3, p. 352.
New Beyer-Garratt locomotives for the Ivory Coast. (1 600 words & fig.)

1939 **625 .13 (.54)**
Railway Gazette, No. 9, March 3, p. 354.
Reflooring a road-rail bridge in India. (1 000 words & fig.)

1939 **621 .392 (.73) & 625 .144.1 (.73)**
Railway Gazette, No.9, March 3, p. 357.
Long rail welding. (900 words & fig.)

1939 **625 .111**
Railway Gazette, No. 10, March 10, p. 411.
The cost of eliminating level crossings. (2 000 words.)

1939 **656 .225 (.42) & 656 .261 (.42)**
Railway Gazette, No. 10, March 10, p. 413.
Containers in France. (2 100 words & fig.)

1939 **656 .261 (.492) & 656 .225 (.492)**
Railway Gazette, No. 10, March 10, p. 417.
Handling containers on the Netherlands Railways. (1 000 words & fig.)

1939 **625 .232 (.4**
Railway Gazette, N° 10, March 10, p. 421.
Swiss **lightweight mail and luggage vans.** (200 w & fig.)

1939 **621 .43 (**
Diesel Railway Traction, p. 22, supplt. to the Rail Gazette, February 17.
Mixed traffic locomotive for the Andes. (2 500 w & fig.)

1939 **621 .43 (.42) & 625 .232 (**
Diesel Railway Traction, p. 26, supplt. to the Rail Gazette, February 17.
The L. M. S. R. **three-car diesel-hydraulic train.** (words.)

1939 **621 .43 (.**
Diesel Railway Traction, p. 28, supplt. to the Rai Gazette, February 17.
Diesel-mechanical trains for interurban servic Greece. (500 words & fig.)

1939 **621 .43 (.54) & 625 .232 (**
Diesel Railway Traction, p. 29, supplt. to the Rai Gazette, February 17.
An Indian extension of diesel traction. Broad-g vehicles for native traffic in Punjab. (500 words &

1939 **621 .43 (**
Diesel Railway Traction, p. 30, supplt. to the Rai Gazette, February 17.
A new steelworks diesel locomotive. (1 500 wor fig.)

1939 **621 .43 (.**
Diesel Railway Traction, p. 32, supplt. to the Rai Gazette, February 17.
Big diesel extension in Norway. (1 800 words.)

1939 **621 .43 (**
Diesel Railway Traction, p. 22, supplt. to the Rai Gazette, February 17.
An advance in **shunting locomotive design.** (500 w & fig.)

1939 **621 .331 (.42) & 621 .332 (**
Electric Railway Traction, p. 24, supplt. to the Rai Gazette, March 3.
Centrovisory and automatic load control equipr (2 000 words & fig.)

1939 **51. (08 & 656**
Electric Railway Traction, p. 27, supplt. to the Rai Gazette, March 3.
EVANS (D. W.). — **A graphical device for the** struction of railway speed-time curves. (2 200 wor fig.)

1939 **621 .337 (**
Electric Railway Traction, p. 29, supplt. to the Rai Gazette, March 3.
Metadyne control for urban trains. (600 words.)

939 621 .33
tric Railway Traction, p. 30, supplt. to the Railway
azette, March 3.
ALVERLEY (J. E.). — Some technical aspects of
vay electrification. (1 200 words.)

Railway Magazine. (London.)

939 656 .222.1 (.44)
way Magazine, No. 501, March, p. 159.
ecent French locomotive performance. II — Northern
on. (3 300 words.)

939 625 .113 (.44)
way Magazine, No. 501, March, p. 163.
ie main-line gradients of French Railways — IV.
thern Region. (To be continued.) (1 200 words &
es.

939 656 .222.1 (.42)
way Magazine, No. 501, March, p. 168.
LLEN (C. J.). — British locomotive practice and
ormance. (4 200 words & fig.)

939 656 .211.7 (.42)
way Magazine, No. 501, March, p. 196.
UTHERLAND (J. H.). — Before the Forth bridge.
00 words.)

Railway Mechanical Engineer. (New York.)

939 621 .131.1
way Mechanical Engineer, March. p. 85.
UCKWALTER (T. V.) and HORGER (O. J.). —
ults and conclusions of locomotive slipping tests.
00 words, tables & fig.)

939 621 .134.1 (.73)
way Mechanical Engineer, March, p. 91.
ILLER (H. G.) and GRANT (L. E.). — Serviceabili-
of heavy-duty piston rods. (3 600 words, tables &

939 621 .392 (.73) & 625 .232 (.73)
way Mechanical Engineer, March, p. 95.
ilwaukee builds more welded passenger cars. (3 700
ds & fig.)

939 621 .138.1 (.73) & 721 .33 (.73)
way Mechanical Engineer, March, p. 101.
nproved facilities feature modern Bessemer & Lake
enginehouse. (2 100 words & fig.)

939 625 .26 (.73)
way Mechanical Engineer, March, u. 108.
rogressive system of light repairs of freight cars.
00 words & fig.)

939 621 .94 (.73)
way Mechanical Engineer. March, p. 114.
ehigh Valley modernizes turret lathe department.
00 words, tables & fig.)

South African Railways and Harbours Magazine. (Johannesburg .)

1939 385 (.73)
South African Railways & Harbours Magazine, March, p. 299.
ROSENTHAL (E.). — American Railways through South African eyes. (2 700 words & fig.)

1939 656. (.92)
South African Railways & Harbours Magazine, March, p. 307.
Die verkehrswese in Nederlands-Indië. (2 300 words & fig.)

The Locomotive. (London.)

1939 625 .13 (0
The Locomotive, No. 559, March 15, p. 63.
Locomotive design and maintenance. (1 100 words.)

1939 621 .131.2
The Locomotive, No. 559, March 15, p. 64.
Problems connected with locomotive design. (1 000 words.)

1939 625 .232 (.945)
The Locomotive, No. 559, March 15, p. 64.
All-steel buffet car, Victorian Railways. (700 words & fig.)

1939 621 .43 (.41)
The Locomotive, No. 559, March 15, p. 66.
Diesel railcar, L. M. S., Northern Counties Committee. (400 words & fig.)

1939 621 .13 (0 & 656 .222.1
The Locomotive, No. 559, March 15, p. 73.
IGEL (Dr. M.). — Haulage performances of locomotives. (1 100 words & fig.)

1939 625 .235
The Locomotive, No. 559, March 15, p. 77.
Carriage interior painting. Cellulose lacquers. (500 words.)

1939 621 .131.3
The Locomotive, No. 559, March 15, p. 78.
Locomotive testing with a counter pressure brake. (1 900 words & fig.)

1939 621 .138 (.42)
The Locomotive, No. 559, March 15, p. 80.
Engine working. (600 words.)

1939 621 .13 (0 (.42)
The Locomotive, No. 559, March 15, p. 85.
More miles — fewer locomotives. (1 200 words.)

1939 621 .335 (.494)
The Locomotive, No. 559, March 15, p. 86.
Swiss Federal Railways, new 12 000 h. p. locomotive. (700 words & fig.)

1939 **625 .2 (0**

The Locomotive, No. 559, March 15, p. 87.

SANDERS (L. I.). — **Carriage and wagon design and construction.** II. Carriage and wagon underframes. (1 000 words & fig.) (To be continued.)

1939 **621 .132.8**

The Locomotive, No. 559, March 15, p. 90.

Dual-gauge locomotive design. (600 words & fig.)

1939 **621 .43 (.85)**

The Locomotive, No. 559, March 15, p. 91.

Diesel mechanical locomotive, Guaqui-La Paz Railway, Peru. (800 words & fig.)

1939 **621 .43 (.945)**

The Locomotive, No. 559, March 15, p. 92.

Producer gas locomotive. (700 words & fig.)

The Oil Engine. (London.)

1939 **621 .43 (.85)**

The Oil Engine, March, p. 340.

Rail traction at high altitudes. (800 words & fig.)

1939 **621 .43 (.68)**

The Oil Engine, March, p. 343.

More British railcar sets for Africa. (200 words & fig.)

1939 **621 .43 (.82)**

The Oil Engine, March, p. 356.

New Diesel rolling stock in Argentina. (1 000 words & fig.)

1939 **621 .43 (.498)**

The Oil Engine, March, p. 358.

KOFFMANN (G. L.). — Roumania's **new eight-speed dual-purpose locomotives.** (700 words & fig.)

Transit Journal. (New York.)

1939 **621 .338 (.73)**

Transit Journal, March, p. 86.

Featherweight car for Brooklyn-Manhattan Transit system. (2 300 words & fig.)

1939 **656 .28 (01 (.73)**

Transit Journal, March, p. 90.

FRIELING (G. W.). — **Sketch your accident.** Detailed records made on the spot are of inestimable value in studying case at later date. (1 100 words & fig.)

In Italian.

Annali dei lavori pubblici. (Roma.)

1938 **624 .2**

Annali dei lavori pubblici, novembre, p. 960.

GALLI (A.). — Superfici d'influenza per i momenti in **piastre rettangolari incastrate o semincastrate** al contorno. (4 300 parole, 2 tabelle & fig.)

1938 **656 .253 (**

Annali dei lavori pubblici, dicembre, p. 1058.

ROMANO (D.). — Gli impianti di **segnalamento sicurezza** e gli **apparati centrali** nella nuova stazion Cuneo e sue linee d'accesso. (9 000 parole & fig.)

L'Ingegnere. (Roma.)

1939 **621 .1**

L'Ingegnere, marzo, p. 57.

BIANCHI (O.). — La linea degli eccentrici fi nelle **distribuzioni a cassetto ed a settore.** (2 500 pa & fig.)

Rivista tecnica delle ferrovie italiane. (Roma

1939 **621 .132.8 (**

Rivista tecnica delle ferrovie italiane, 15 gennaio,

BAJOCCHI (U.), DIEGOLI (M.), GAMBA (M. MAFFEZZOLI (A.). — **Confronto sperimentale due locomotive tipo 670** di cui una trasformata sec il sistema « **Franco** ». (1 200 parole & fig.)

1939

Rivista tecnica delle ferrovie italiane, 15 gennaio, p

LUCARELLI (B.). — Moderni orientamenti nei teri di fabbricazione e di impiego del **cemento portl** (3 800 parole.)

1939 **625 .**

Rivista tecnica delle ferrovie italiane, 15 gennaio, p

ROBERT (G.). — **Temperatura e termometro di taia.** (3 700 parole & fig.)

1939 **656 .254 (**

Rivista tecnica delle ferrovie italiane, 15 gennaio, p

Nuova **linea di segnalamento e telefonica** Vogh Piacenza delle Ferrovie dello Stato. (900 parole &

1939 **625 .143**

Rivista tecnica delle ferrovie italiane, 15 febraio, p

CORINI (F.). — Il **IV Congresso Internaziomale d** rotaia. (4 900 parole & fig.)

1939 **625 .14**

Rivista tecnica delle ferrovie italiane, 15 febraio, p

CORINI (F.). — Studi ed esperienze compiute in lia sulla **stabilitá del binario** in relazione alle azioni miche. (2 000 parole.)

1939 **621 .43 & 625 .14**

Rivista tecnica delle ferrovie italiane, 15 febraio, p

STAGNI (E.). — Stabilitá e criteri costruttivi **automotrici veloci** a scartamento ridotto. (6 500 pa & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 **656 (**

Trasporti e lavori pubblici, febraio, p. 46.

Un nuovo decreto sulla **coordinazione** in Fra (5 300 parole.)

939 **385** (.45)
sporti e lavori pubblici, febraio, p. 53.
ORINI (F.). — L'autarchia nelle **costruzioni ferro-ie.** (6 300 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

939 **624** .51 (.73)
Ingenieur, No. 8, 24 Februari, p. B. 21.
an Francisco-Oakland baai **brug.** (3 200 woorden &)

939 **62.** (01 & **691**
Ingenieur, No. 9, 3 Maart, p. Bt. 21.
ENDEL (L.). — Grundlagen um gleichmässig be-affenen **Beton** zu erhalten. (7 800 woorden & fig.)

939 **656** .1 (.492)
Ingenieur, No. 10, 10 Maart, p. A. 101.
let aandeel van het **motorwegverkeer** in de kosten den weg in Nederland. (2 700 woorden.)

Spoor- en Tramwegen. (Utrecht.)

939 **651** (.492)
oor- en Tramwegen, No. 5, 28 Februari, p. 105.
ROOT (A. M.). — De **mechanisatie** van de Reizigers-ministratie der Nederlandsche Spoorwegen. (3 400 orden.)

939 **656** .212.5
oor- en Tramwegen, No. 6, 18 Maart, p. 125.
REUKELMAN (W. A.). — Het bepalen van een **lrijfsplan voor rangeerstations.** (2 400 woorden &)

939 **625** .163 (.492)
oor- en Tramwegen, No. 6, 18 Maart, p. 129.
De **stationsversiering** der Nederlandsche Spoorwegen 1938. (2 100 woorden & fig.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa.)

1939 **621** .13 = **91** .885 & **621** .33 = **91** .885
Inzynier Kolejowy, No. 2, p. 102.
KARLSBAD (A.). — Considerations in connection with Dr. Langrod's article : « **Characteristic features of electric and steam traction** ». (3 900 words & fig.)

1939 **621** .13 = **91** .885 & **621** .33 = **91** .885
Inzynier Kolejowy, No. 2, p. 106.
PODOSKI (R.). — Considerations in connection with Dr. Langrod's article : **Characteristic features of electric and steam traction** ». (3 200 words & fig.)

1939 **621** .13 = **91** .885 & **621** .33 = **91** .885
Inzynier Kolejowy, No. 2, p. 109.
LANGROD (A.). — **Characteristic features of electric and steam traction.** — Reply to M. A. Karlsbad, Engineer, and Prof. R. Podoski. (2 700 words & fig.)

1939 **385** .57 (.438) = **91** .885
Inzynier Kolejowy, No. 2, p. 117.
TARGONSKI (H.). — **Psychotechnical tests** of the locomotive running department staff in relation to accidents. (2 600 words.)

In Portuguese.

Revista das Estradas de ferro. (Rio de Janeiro.)

1939 **656**
Rivista das Estrados de ferro, No. 326, 15 de fevereiro, p. 2242.
Coordenação de transportes. (2 000 palavras.)

M. Weissenbruch Co., Ltd.. Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(JUNE 1939)

016. 385. (02]

I. — BOOKS.

In French.

)39 624 .9
RBEROT (E.).
raité pratique de charpente.
aris, Librairie polytechnique. 1 volume (18 × 27 , 647 pages et 1 395 figures. (Prix : 165 fr. franç.)

)39 614 .8 & 656 .286
NOIT (R.).
e la responsabilité dans le transport des voyageurs chemin de fer.
aris, Pédone, A., 13, rue Soufflot. 1 volume (16 × 180 pages.

)38 385 .4 (.44) & 656 (.44)
e nouveau régime des Chemins de fer français et la rdination des transports.
aris, Librairie générale de droit et de jurisprudence olume, 172 pages. (Prix : 30 fr. français.)

)39 721 .1
.YER (A.).
ols et fondations.
aris (5e), Armand Colin, 103, boulevard St-Michel. olume. (Prix: 15 fr. français.)

)38 624. (06
Iémoires de l'Association internationale des Ponts Charpentes.
urich, Gebr. Leeman & Cie. 1 volume (17 × 24 cm.), pages. (Prix : 30 fr. suisses.)

In German.

)39 62. (01 & 669
)ie Korrosion von Nichteisenmetallen und deren Le-rungen.
eipzig, S. Hirzel. 1 Band, 428 Seiten und 409 Abbil-gen. (Preis : 66.50 R. M.)

1939 621 .138.5 (.43) & 625 .26 (.43)
Elsners Taschenjahrbuch für den Werkstätten- und Betriebsmaschinendienst bei der Deutschen Reichsbahn.
Berlin, Otto Elsner Verlagsgesellschaft. 1 Band (10.5 × 15.5 cm), 584 Seiten und Abbildungen. (Preis : 3.50 R. M.)

1938 691 & 721 .9
ERNST (E.).
Oberflächenbehandlung unverkleideter Beton- und Eisenbetonbauten.
Berlin, Wilhelm Ernst & Sohn. 1 Band, 95 Seiten und 29 Abbildungen. (Preis : 1.60 R. M.)

1938 621 .43
FIEBELKORN (H.).
Fahrzeug-Dieselmotoren und Fahrzeug-Gasgeneratoren in Wirkungsweise, Bau, Betrieb und Anwendung.
Berlin, Union Deutsche Verlagsgesellschaft. 1 Band, 1 farb. Tafel und 310 Abbildungen. (Preis : 15 R. M.)

1938 691 & 721 .9
LOSER (R.).
Bemessungsverfahren.
Berlin, Wilhelm Ernst & Sohn. 1 Band, 214 Seiten, 71 Tafeln und 217 Textabbildungen. (Preis : 7.40 R. M.)

1938 621 .337
Regeln für elektrische Maschinen und Transformatoren auf Bahn- und anderen Fahrzeugen.
Berlin-Charlottenburg. E. T. Z.-Verlag G. m. b. H. 1 Heft, 37 Seiten. (Preis : 0.80 R. M.)

1938 656 .231
SCHROIFF (F.).
Die Eisenbahntariftheorien in Deutschland, England und Amerika.
Münster (Westf.), Wirtschaft- und Sozialwissenschaftlicher Verlag. 1 Heft, 58 Seiten. (Preis : 1.80 R.M.)

1938 624 .92
Stahl im Hochbau. Taschenbuch für Entwurf, Berechnung und Ausführung von Stahlbauten.
Düsseldorf, Verein Deutscher Eisenhüttenleute. 1 Band, 770 Seiten und 2 000 Textabbildungen. (Preis : 12 R. M.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. Weissenbruch, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 1509).

In English.

1938 **62. (01 & 624 .2**

An investigation of rigid frame bridges. Part I — Tests of reinforced concrete knee frames and bakelite models. (University of Illinois Bulletin, No. 23, November 15.)

Urbana, Ill. : The University of Illinois. 48 pages. (Price : fifty cents.)

1938 **62. (01 & 624 .2**

An investigation of rigid frame bridges. Part II — Laboratory tests of reinforced concrete rigid frame bridges. (University of Illinois Bulletin, No. 28, December 2.)

Urbana, Ill. : The University of Illinois. 78 pages. (Price : eighty-five cents.)

1939 **614 .7**

A survey of sulphur dioxide pollution in Chicago and vicinity. (University of Illinois bulletin, No. 37, January 3.)

Urbana, Ill. : The University of Illinois. 32 pages. (Price : forty cents.)

1939 **385. (02**

A Yearbook of railroad information — 1938 edition.

New York : Committee on Public Relations of the Eastern Railroads, 143, Liberty Street. 96 pages. Free.

1939 **385. (09 (.42)**

BARRIE (D. S.).

The Taff Vale Railway.

Sidcup, Kent : The Oakwood Press, 19, The Drive (7 1/2 in. × 5 in.). 35 pp. + illustration plates and maps. (Price : 2 s. 6 d.)

1939 **536**

CALLENDAR (G. S.) and EGERTON (A. C.).

The 1939 Callendar steam tables.

London : Edward Arnold and Co., 41, Maddox Street, W. 1. (Price : 15 s. net, with thumb index; 12 s. 6 d. net without.)

1939 **385. (093 (.71)**

DORMAN (R.).

A statutory history of the steam and electric railways of Canada, 1836-1937.

Canada : Department of Transport. 765 pages (9 3/4 in. by 6 1/2 in.) Bound in cloth. (Price : $ 3.)

1939 **62. (01 & 621 .392**

Fatigue tests of butt welds in structural steel plates. (University of Illinois Bulletin, No. 42, January 20.)

Urbana, Ill. : The University of Illinois. 58 pages. Illustrated. (Price : sixty-five cents.)

1939 **697**

FULLER (C. H.) and SNOW (D.).

Air conditioning.

London : Sir Isaac Pitman and Sons, Ltd., Parker Street, W. C. 2. (Price : 20 s. net.)

1939 **62. (01 &**

KEHL (G. L.).

Principles of Metallographic Laboratory Practice.

London : McGraw-Hill Publishing Company, L Aldwych House, W. C. 2. (Price : 21 s. net.)

1939 **347. 763 (.**

Mahaffy and Dodson's Road Traffic Acts and Ord supplement, 1939.

London : Butterworth & Co., Ltd., Bell Yard, Tem Bar, W. C. 2. XIII + 157 pp. (Price : 7 s. 6 d. n

1939 **621**

REED (B.).

Diesel locomotives and railcars. Second edition.

London : Locomotive Publishing Company, L 3, Amen Corner, E. C. 4. (Price : 6 s. net.)

1939 **624.**

STEWART (D. S.).

Influence lines : their practical use in bridge cal ation.

London : Constable & Co., Ltd., 10, Orange Str W. C. 2. (9 in. × 5 3/4 in.) 215 pp. Illustrated. (Pri 12 s. 6 d. net.)

1939 **656 .3**

STREETER (Ed.).

Daily except Sundays.

New York : published by Simon and Schuster. pages (7 1/2 in. by 5 in.) Illustrated. Bound in cl (Price : $ 1.25.)

1939 **347 .763 (.4**

The law of carriage by inland transport.

London : Stevens & Sons, Ltd., 119-120 Chancery la W. C. 2. XXIII + 424 pp. (Price : 12 s. 6 d. net.)

1939 **5**

The 1939 heat entropy diagram for steam plot from the 1939 Callendar steam tables. Based on resea by A. C. Egerton, F. R. S. and G. S. Callendar.

London : Edward Arnold and Co., 41, Maddox str W. 1. (Price : 4 s. net.)

1939 **385. (09 (.5**

WILDE (Mrs. F. S.).

Pioneering days on the Hill section of the Assa Bengal Railway.

London : Assam-Bengal Railway Co., Ltd., 56, Vic ria street, S. W. 1. 9 3/4 in. × 6 1/4 in. 59 pp. (Pri 6 s. net.)

In Spanish.

1938 **385. (09 (.8**

BUSTAMANTE (T. Sanchez de).

Algunos antecedentes y aspectos de los Ferrocarr Argentinos.

Buenos Aires, Revista de Ciencias Económicas, 1 lleto, 16 páginas.

016. 385. (05]

II. — PERIODICALS.

In French.

Bulletin de la Société des ingénieurs civils de France. (Paris.)

938 **621 .132.3 (.42) & 625 .232 (.42)**
Bull. de la Soc. des ing. civ. de France, juillet-août, p. 479.
BULLEID (O. V.). — Les **trains modernes à grande esse** pour longs parçours en Grande-Bretagne. (9 000 ts & fig.)

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

939 **388**
ll. de l'Ass. française des amis des ch. de fer, janvier, p. 5.
ANGEVIN (M.). — Les **transports dans les grandes és.** (8 400 mots & fig.)

1939 **621 .132.3 (.44)**
ll. de l'Ass. française des amis des ch de fer, février, p. 24.
VILAIN (L.). — Aperçu sur l'évolution des **locomo-es à grande vitesse** à la Compagnie du Midi. (3 000 ts & fig.)

1939 **621 .132.3 (.73)**
ll. de l'Ass. française des amis des ch. de fer, février, p. 30.
Note sur les **performances** en service courant des ma-nes Delaware Lackawanna & Western. (800 mots fig.)

1939 **385. (09 (.59)**
ll. de l'Ass. française des amis des ch. de fer, février, p. 34.
VUILLET (G.). — Les **chemins de fer** de l'Indo-ine. (1 200 mots & tableaux.)

1939 **261 .132.3 (.44)**
ll. de l'Ass. française des amis des ch. de fer, février, p. 36.
Note sur les **transformations** apportées à quelques achines 230-000 de la Région Ouest et aux locomo-es Pacific 231-500 (T. P.). (3 400 mots.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1939 **385 .62 & 385 .63**
ll. des transp. intern. par ch. de fer, mars, p. 82.
Longueurs kilométriques des lignes auxquelles s'ap-quent la **C. I. M.** et la **C. I. V.** (Art. 1 et 2.) (900 ts.)

1939 **385 .62 & 385 .63**
Bull. des transp. intern. par ch. de fer, mars, p. 87.
La revision des **Conventions de Berne** concernant les transports par chemins de fer (C. I. V. et C. I. M.). (5 200 mots.)

1939 **313 .385 (.493)**
Bull. des transp. intern. par ch. de fer, mars, p. 137.
La **Société Nationale des Chemins de fer belges.** Les exercices 1936 et 1937. (Tableaux.)

Bulletin technique de la Suisse romande. (Vevey.)

1939 **621 .43**
Bull. techn. de la Suisse romande, n° 6, 15 mars, p. 76.
Réglage automatique de la **puissance des moteurs Diesel.** (1 500 mots & fig.)

1939 **624 .63**
Bull. techn. de la Suisse romande, n° 7, 8 avril, p. 85.
Evolution de la construction des **ponts en béton armé.** (1 200 mots & fig.)

Electricité. (Paris.)

1939 **62. (01 & 691**
Electricité, avril, p. 125.
GAUTHERET (R.). — L'électricité dans les industries de protection des métaux contre la **corrosion** et l'**usure.** (7 000 mots, 5 tableaux & fig.)

France Transports. (Paris.)

1939 **656. (.73)**
France Transports, n° 271, 15 mars, p. 14; n° 272, 1er avril, p. 13.
DELANNEY (L. H. E.). — **Réglementation du rail et de la route** en matière de tarifs marchandises. (7 600 mots.)

1939 **656 (.44)**
France Transports, n° 271, 15 mars, p. 17.
JACQUOT (L. R.). — **Transports combinés rail-route** et l'accélération générale des transports. (2 300 mots.)

1939 **385. (09 (.63)**
France Transports, n° 271, 15 mars, p. 24.
ABEL (E.). — Le **chemin de fer franco-éthiopien de Djibouti à Addis Abeba.** (3 000 mots.)

Génie civil. (Paris.)

1939 **621 .9**
Génie civil, n° 2956, 8 avril, p. 297.
BRILLIÉ (H.). — Mesure des efforts de coupe et influence des **lubrifiants.** (5 200 mots & fig.)

1939 **388. (.42)**

Génie civil, n° 2956, 8 avril, p. 308.

PONDEVEAUX (L.). — L'organisation des **transports en commun** dans la banlieue de Londres. (1 100 mots.)

1939 **721 .1**

Génie civil, n° 2957, 15 avril, p. 327.

Etude analytique de la force portante des **pieux battus.** (1 400 mots & fig.)

La Technique moderne. (Paris.)

1939 **621 .31**

La Technique moderne, n° 6. 15 mars, p. 208.

DEMONTVIGNIER (M.). — Quelques procédés récents de **transformation du courant continu** en courants alternatifs de fréquence industrielle. (8 000 mots & fig.)

1939 **621 .43 (.44)**

La Technique moderne, n° 6, 15 mars, p. 224.

LE CHEVALIER. — Les nouvelles **automotrices de ramassage** de la S. N. C. F. (Région Ouest.) (2 600 mots & fig.)

1939 **629 .113 .62**

La Technique moderne, n° 6, 15 mars, p. 227.

GAILLARD (J.). — Le **trolleybus.** Réalisations récentes et tendances actuelles. (5 200 mots & fig.)

1939 **656 .254**

La Technique moderne, n° 7, 1er avril, p. 266.

CAUVY (J.). — La **répétition des signaux sur les locomotives.** (3 900 mots & fig.)

1939 **62. (01**

La Technique moderne, n° 8, 15 avril, p. 281.

HAINAULT (H.). — Les développements récents de la **photo-élasticimétrie.** (5 000 mots & fig.)

1939 **62. (01 & 625 .212**

La Technique moderne, n° 8, 15 avril, p. 294.

La cause des écaillages de **bandages.** (1 700 mots.)

Le Rail. (Bruxelles.)

1939 **385 (.493)**

Le Rail, 15 mars, p. 3.

WIENER (L.). — Les **Chemins de fer belges.** (3 300 mots & fig.)

1939 **656 .211 (.493)**

Le Rail, 15 mars, p. 9.

Jonction Nord-Midi. Travaux de relèvement de la gare de Bruxelles-Nord. (1 800 mots & fig.)

1939 **656 (.493)**

Le Rail, 15 mars, p. 12.

La **coordination des transports** en Belgique. (2 200 mots.)

Les transports modernes. (Paris.)

1939 **656 (.**

Les transports modernes, janvier, p. 3.

JOURDAIN (P.). — La **coordination** des transpo ferroviaires et routiers. (1 300 mots.)

1939 **625 .**

Les transports modernes, janvier, p. 11.

ERB (A.). — La régulation automatique du cha **fage des trains** par radiateurs (à vapeur ou électriqu (3 200 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1939 **624 .62 (.**

L'Ossature métallique, avril, p. 177.

KIRKLEY (L. F.). — Le nouveau **pont** de Mid town-Portland (Etats-Unis). (1 800 mots & fig.)

1939 **624**

L'Ossature métallique, avril, p. 189.

ALEXANDRE (R.). — Les **poutres semi-Vierendee** leurs applications. (3 600 mots & fig.)

1939 **624**

L'Ossature métallique, avril, p. 196.

LAZARIDES (T.). — Applications des équations Manderla-Gehler au **calcul des lignes d'influence.** (2 mots & fig.)

Revue de l'Union Internationale de Tramway de Chemins de fer d'intérêt local et de Transpor publics automobiles. (Bruxelles.)

1939 **385 .57 (.**

Revue de l'Union Int. de Tram., de Chem. de fer d local et de Transp. publ. autom., n° 2, p. 26.

Le facteur humain. — Le **laboratoire de psychotec que** de la S. T. C. R. P., Paris. (5 600 mots.)

Revue générale des chemins de fer. (Paris.

1939 **385. (09 (.**

Revue générale des chemins de fer, avril, p. 243.

LEGOUX. — **Cent ans de banlieue.** La banlieue ou (11 500 mots & fig.)

1939 **385. (09 (.**

Revue générale des chemins de fer, avril, p. 286.

Le **chemin de fer franco-éthiopien de Djibouti à A Abeba.** (1 200 mots & fig.)

1939 **625 .232 (.**

Revue générale des chemins de fer, avril, p. 293.

TAFFIN DE GIVENCHY. — **Voitures métallique grandes lignes** de la Région du Nord de la S. N. C (4 000 mots & fig.)

1939 **656 .255 (.44)**
vue générale des chemins de fer, avril, p. 303.
GOUA. — **Equipement économique d'une gare de voie que** située sur une ligne parcourue par des express. 100 mots & fig.)

1939 **621 .13 (.45) & 621 .33 (.45)**
vue générale des chemins de fer, avril, p. 315.
VINOT. — L'autarchie et la **traction** des chemins de en Italie. (1 600 mots & fig.)

1939 **625 .231 (.494)**
vue générale des chemins de fer, avril, p. 327.
Nouveaux **fourgons-postaux** suisses. (150 mots & fig.)

Traction nouvelle. (Paris.)

1939 **621 .33 (.44)**
action nouvelle, mars-avril, p. 44.
BARILLOT (R.). — **Electrification** Tours-Bordeaux. 200 mots & fig.)

1939 **621 .132.5 (.44)**
action nouvelle, mai-avril, p. 52.
CONGAS (Ph.). — 50 nouvelles **Decapod** pour la S. N. F. (1 000 mots & fig.)

1939 **621 .43 (.44)**
action nouvelle, mars-avril. p. 54.
LISSACQ (H.) & GARSONNIN (M.). — Les **autos-ls** Brissonneau et Lotz de la région du Sud-Ouest. 00 mots & fig.)

1939 **621 .335 (.494) & 625 .2 (.494)**
action nouvelle, mars-avril, p. 56.
MULLER (W.). — Les nouveaux **matériels pour ndes vitesses** des Chemins de fer Fédéraux suisses. 200 mots & fig.)

1939 **621 .133.1**
action nouvelle, mars-avril, p. 70.
GALAND (J.). — Récentes applications de la **chauffe mazout** à des foyers existants de locomotives à va-r. (1 300 mots & fig.)

1939 **621 .8 & 621 .43**
action nouvelle, mars-avril, p. 72.
BARDET (A.). — Une **transmission mécanique** de C.V. sans pont moteur. (1 000 mots & fig.)

In German.

Archiv für Eisenbahnwesen. (Berlin.)

1938 **385. (09 (.493)**
hiv für Eisenbahnwesen, Heft 6, November-Dezem-ber, S. 1333.
ELORY (F. H.). — Die **belgischen Eisenbahnen.** 23 bis 1937). (13 000 Wörter.)

1938 **385. (09.3 (.43)**
Archiv für Eisenbahnwesen, Heft 6, November-Dezember, S. 1373.
WESSEL (L.). — Geschichte der Kurhessischen **Eisenbahnpolitik.** (33 000 Wörter.)

1938 **385 .517 (.43)**
Archiv für Eisenbahnwesen, Heft 6, November-Dezember, S. 1461.
KUHATSCHECK. — Die **Reichsbahnversicherungsanstalt,** die **Reichsbahnbetriebskrankenkassen,** die **Angestellten-, Unfall- und Arbeitslosenversicherung** bei der Deutschen Reichsbahn im Jahre 1937. (25 000 Wörter.)

1938 **385 .4 (.44)**
Archiv für Eisenbahnwesen, Heft 6, November-Dezember, S. 1529.
VERBEEK. — Der **Verwaltungsaufbau** der Nationalgesellschaft der französischen Eisenbahnen. (9 000 Wörter.)

1939 **656. (.675)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 27.
PASCHEN (W.). — Die **Verkehrs- und Wirtschaftspolitik** im Belgischen Kongo. (25 500 Wörter & Abb.)

1939 **656. (.42)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 135.
WERNEKKE. — Die Tochterbetriebe und Beteiligungen der **englischen Eisenbahnen.** (7 300 Wörter.)

1939 **385 .113 (.492)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 155.
Die **Niederländischen Eisenbahnen** im Jahre 1937. (6 000 Wörter.)

1939 **385 .113 (.92)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 173.
Die **Eisenbahnen in Niederländisch Ostindien** in den Jahren 1936 und 1937. (3 800 Wörter.)

1939 **385. (09 (.81)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 185.
KÖNIG (W.). — Die **Eisenbahnen** Brasiliens. (4 200 Wörter.)

1939 **385. (09 (.55)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 201.
DIECKMANN. — Der **Eisenbahnbau** in Iran. (4 000 Wörter & Abb.)

1939 **385 .113 (.47.1)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 213.
Die **Eisenbahnen Finnlands** in den Jahren 1935 und 1936. (1 500 Wörter.)

1939 **625 .143 (06 (.43)**
Archiv für Eisenbahnwesen, Heft 7, Januar-Februar, S. 218.

IV. Internationale Schienentagung im September 1938 in Düsseldorf. (3 400 Wörter.)

Die Lokomotive. (Berlin).

1939 **621 .13 (.43)**
Die Lokomotive, Nr. 1, April, S. 3.

WAGNER (R. P.). — Die Entstehung der **Dampflokomotiv-Typisierung** in Deutschland. (3 800 Wörter & Abb.)

1939 **621 .132.8 (.81)**
Die Lokomotive, Nr. 1, April, S. 12.

BÖHMIG (W.) & BANGERT (P. H.). — Die neuesten **Henschel-Gelenk-Lokomotiven** (Baujahr 1937) für die Brasilianische Zentralbahn. (3 300 Wörter & Abb.)

1939 **621 .132.3 (.43)**
Die Lokomotive, Nr. 1, April, S. 21.

SCHNEIDER (L.). — **2' D 2' h 3 Schnellzug-Lokomotive Reihe 06** der Deutschen Reichsbahn, gebaut von Fried. Krupp A.-G., Essen. (2 400 Wörter & Abb.)

1939 **621 .134**
Die Lokomotive, Nr. 1, April, S. 25.

NORDMANN. — Wirtschaftliche **Thermodynamik der Dampflokomotive.** (4 600 Wörter.)

Die Reichsbahn. (Berlin.)

1939 **625 .163 & 625 .164**
Die Reichsbahn, Heft 12, 22. März, S. 291.

MÜLLER (O.). — Die **Bahnunterhaltung** im Kampf gegen die Betriebsgefahren im Hochgebirge. (3 700 Wörter & Abb.)

1939 **656. (.43)**
Die Reichsbahn, Heft 13, 29. März, S. 316.

PREISER. — **Reichsbahn** und **Omnibusbetrieb.** (3 000 Wörter.)

1939 **385. (09 (.43)**
Die Reichsbahn, Heft 14-15, 5.-12. April, S. 330.

HARDT. — Das **vergrösserte Netz der Reichsbahn** und ihr Verkehrszuwachs 1938-39 im Spiegel der Statistik. (700 Wörter & 6 Tafeln.)

1939 **656 .222.5 (.43)**
Die Reichsbahn, Heft 14-15, 5.-12. April, S. 334.

Der **Personenzugfahrplan** der Deutschen Reichsbahn zum 15. Mai 1939. (25 500 Wörter.)

1939 **351 .757 (.43)**
Die Reichsbahn, Heft 16, 19. April, S. 391.

HÜLSENKAMP (F.). — Zwanzig Jahre **Bahnschutz.** (6 400 Wörter & Abb.)

Elektrische Bahnen. (Berlin.)

1939 **621 .33 (.4**
Elektrische Bahnen, Januar, S. 1.

WECHMANN (W.). — Die **elektrische Zugförderu** der Deutschen Reichsbahn im Jahre 1938. (6 700 W ter.)

1939 **621 .336 (.4**
Elektrische Bahnen, Januar, S. 9.

DAVID (K.). — Die **Fahrleitungsanlage** Salzbu Attnang-Puchheim der Deutschen Reichsbahn. (6 Wörter & Abb.)

1939 **621 .33 (.43**
Elektrische Bahnen, Januar, S. 18.

KARBUS (S.). — Die **Hilfsfahrzeuge für die Fa leitungserhaltung** bei den ehem. Österreichischen, B desbahnen. (6 500 Wörter, 3 Tafeln & Abb.)

1939 **625 .**
Elektrische Bahnen, Januar, S. 29.

Beitrag zur Frage der **Radreifenumrisslinie.** (2 Wörter & Abb.)

1939 **621 .332 (.4**
Elektrische Bahnen, Februar, S. 37.

WECHMANN. — Elektrische Oberbetriebsleitung elektrische **Betriebsleitungen** bei der Deutschen Reic bahn. (1 600 Wörter.)

1939 **621 .**
Elektrische Bahnen, Februar, S. 39.

DITTES (P.). — Die **Energieversorgung** der elekt schen Bahnen auf der Teiltagung Wien 1938 der W kraftkonferenz. (25 000 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1939 **621 .9 (.4**
Glasers Annalen, Heft 5, 1. März, S. 49.

SCHWETH (W.). — Reichsbahn und **Werkzeugm schinenbau** in den letzten Jahren. (10 500 Wörter Abb.)

1939 **621**
Glasers Annalen, Heft 5, 1. März, S. 62.

Gleichfräsen. (1 600 Wörter & Abb.)

1939 **621 .13**
Glasers Annalen, Heft 6, 15. März, S. 71.

DOEPPNER (A.). —Neue **Lokomotiven der Achs anordnung 2' D 1'** (Mountain) für Uebersee. (2 Wörter & Abb.)

Gleistechnik und Fahrbahnbau (Karlsruhe).

1938 **625 .**
Gleistechnik und Fahrbahnbau, Heft 19-20, 15. Oktob S. 181.

SCHRAMM (G.) — Das **Krümmungsbild** und se Anwendung im Gleisbau. (6 600 Wörter & Abb.)

1938 **656 .256.3 (.43)**
...istechnik und Fahrbahnbau, Heft 19/20, 15. Oktober, ... S. 195 & Heft 21-22, 15 November, S. 201.
...HAUSSETTE (G.). — Die Fortentwicklung der deut...en **Wechselstrombahnhofsblockung.** (1 0 000 Wörter ...Abb.)

1938 **625 .113**
...istechnik und Fahrbahnbau, Heft 21-22, 15. Novem... ber, S. 210.
...ISTOLKORS (E. v.). — Zur Frage der **Berichti...g von Gleisbogen** aus Pfeilhöhenmessungen. (2 800 ...rter.)

1938 **625 .14**
...istechnik und Fahrbahnbau, Heft 21-22, 15. Novem... ber, S. 217.
...PÖSENTRUP (H.). — Beitrag zur **Berechnung des ...erbaues.** (1 800 Wörter & Abb.)

1938 **625 .143.4**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 221.
...HUBER (M. T.). — Über den Einfluss der Wärme...nnungen auf die **Verwerfungsgefahr** eines geraden ...kenlosen Gleises. (1 400 Wörter & Abb.)

1938 **625 .14 (01**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 223.
...HÜTTNER (W.). — Die Wirkung der in Vignol...ngschienenbahnen entstehenden **Spannungen** auf den ...erbau. (2 200 Wörter & Abb.)

1938 **625 .14**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 226.
...RAAB (F.). — Das Eisenbahngleis unter dem Ge...htspunkt der **Verwerfungssicherheit.** (1 500 Wörter & ...b.)

1938 **625 .14**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 229.
...FINDEIS. — **Stuhlschienen- oder Breitfuss-Oberbau ?** ...00 Wörter & Abb.)

1938 **625 .143.5**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 230.
Schienenbefestigung mit Keil-Klemmplättchen. (700 ...örter & Abb.)

1938 **625 .14 (01**
...istechnik und Fahrbahnbau, Heft 23-24, 15. Dezem... ber, S. 237.
Lokomotiv-Raddruck-Wägevorrichtung. (800 Wör...r.)

1939 **656 .212.5**
...istechnik und Fahrbahnbau, Heft 1-2, 15. Januar, S. 1; Heft 3-4, 15. Februar, S. 17.
...NEBELUNG (H.). — Die Bewertung der **Zugbildungs...lagen** eines Verschiebebahnhofes nach den Rangier...fgaben und der Betriebsweise. (10 000 Wörter & Abb.)

1939 **625 .143.4**
Gleistechnik und Fahrbahnbau, Heft 3-4, 15. Februar, S. 27.
RAAB (F.). — Atmungswiderstände in den **Stossverbindungen,** Stosslückenweite und Axialkräfte im Eisenbahngleis. (3 500 Wörter & Abb.)

1939 **625 .141**
Gleistechnik und Fahrbahnbau, Heft 5-6, 15. März, S. 37.
RAAB (F.). — Grundsätzliches zur Frage der Berücksichtigung der Eigenschaften des Schotterbettes bei Untersuchungen über die **Stabilität des Eisenbahngleises.** (2 000 Wörter & Abb.)

1939 **625 .144.1 (.42)**
Gleistechnik und Fahrbahnbau, Heft 5-6, 15. März, S. 49.
Herstellung, Beförderung und Einbau von **120 Fuss (36.6 m) langen Schienen in England.** (1 200 Wörter.)

1939 **625 .144.1**
Gleistechnik und Fahrbahnbau, Heft 5-6, 15. März, S. 50.
180 m. lange Schienen auf dem Wege zur Einbaustelle. (1 300 Wörter.)

1939 **625 .14 (01**
Gleistechnik und Fahrbahnbau, Heft 5-6, 15. März, S. 52.
Die Einwirkung der **Lokomotivlast** auf die Schiene. (1 200 Wörter.)

1939 **625 .144.4 (.73)**
Gleistechnik und Fahrbahnbau, Heft 5-6, 15. März, S. 53.
Oberbaugeräte in den Vereinigten Staaten. (1 000 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **621 .135.4**
Organ für die Fortschr. des Eisenbahnwesens, Heft 6, 15. März, S. 103.
HEUMANN. — Das Einfahren von 1' E 1' - Lokomotiven mit vorderem und hinterem Eckhardt-Gestell in **Gleisbogen.** (5 400 Wörter & Abb.)

1939 **621 .43 & 625 .255**
Organ für die Fortschr. des Eisenbahnwesens, Heft 6, 15. März, S. 111.
RÖBLING. — Elektrisch gesteuerte **Triebwagenbremsen.** (1 900 Wörter & Abb.)

1939 **625 .2 & 669**
Organ für die Fortschr. des Eisenbahnwesens, Heft 7, 1. April, S. 121.
TASCHINGER (O.). — Laufeigenschaften besonders **leicht gebauter Fahrzeuge.** (8 900 Wörter, 12 Tafeln & Abb.)

1939 **625 .24 (.73)**
Organ für die Fortschr. des Eisenbahnwesens, Heft 7, 1. April, S. 137.
Fortschritte im amerikanischen **Güterwagenbau.** (900 Wörter & Abb.)

Verkehrstechnische Woche. (Berlin.)

1939 **656. (.43)**

Verkehrstechnische Woche, Heft 12, 22. März, S. 129.

KLEINMANN (W.). — Die Bedeutung der **Verkehrsmittel** im deutschen Wirtschaftsleben. (6 500 Wörter.)

1939 **385. (09 (.73)**

Verkehrstechnische Woche, Heft 12, 22. März, S. 137.

SCHWERING (F.). — Die **Eisenbahnen Amerikas** zu Beginn des Jahres 1939. (2 000 Wörter.)

1939 **656 .2 (.43)**

Verkehrstechnische Woche, Heft 13, 29. März, S. 141.

LEIBBRAND. — **Leistungen des Reichsbahnbetriebs.** (4 200 Wörter & Abb.)

1939 **625 .162 & 656 .254**

Verkehrstechnische Woche, Heft 13, 29. März, S. 146.

SCHACHENMEIER. — Die Sicherung des Verkehrs auf **Wegübergängen in Schienenhöhe.** (6 500 Wörter & Abb.)

1939 **656 .2 (.43)**

Verkehrstechnische Woche, Heft 14, 5. April, S. 157.

EISELE. — Die **Entwicklung des Verkehrs** im Bezirk der Reichsbahndirektion Halle (S) und der Einfluss des Vierjahresplanes auf den Verkehr. (4 600 Wörter.)

1939 **625 .4 (.43)**

Verkehrstechnische Woche, Heft 15, 12. April, S. 169.

LÜBBEKE. — Zur Eröffnung des Bahnhofes Postdamer Platz der **Berliner Nordsüd-S-Bahn.** (3 400 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure. (Berlin.)

1939 **624 .91 (.43)**

Zeitschr. des Ver. deutsch. Ing., Nr. 12, 25 März, S. 363.

HUMMEL (Th.). — Holz im Lehrgerüstbau bei den **Brücken** der Reichsautobahn. (3 500 Wörter & Abb.)

1939 **625 .143. (06 (.43)**

Zeitschr. des Ver. deutsch. Ing., Nr. 13, 1. April, S. 391.

Forschungen und Betriebserfahrungen an **Schienen.** (2 500 Wörter.)

1939 **385 .113 (.43)**

Zeitschr. des Ver. deutsch. Ing., Nr. 14, 8. April, S. 409.

Die **Deutsche Reichsbahn** im Jahre 1938. (2 700 Wörter.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **656 .213 (.47)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 12, 23. März, S. 257.

BERNHARD (O. H.). — Bremen, der grosse deutsche **Eisenbahnhafen.** (2 000 Wörter & Abb.)

1939 **656 .212.6**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 12, 23. März, S. 262.

FOLTZ (W.). — **Förderband- oder Karranlage.** (4 000 Wörter & Abb.)

1939 **625 .**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 30. März, S. 277.

LILLIENDAHL (A.). — Die **Beherrschung des L zustandes im Eisenbahnwagen** während der war Jahreszeit. (3 100 Wörter & Abb.)

1939 **625 .**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 30. März, S. 281.

MARTENS (A.). — Der **Schutz der Arbeiter** Werkgleisen. (2 200 Wörter.)

1939 **385 .113 (4**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 30 März, S. 283.

SALLER. — **Sowjet-Eisenbahnverkehrswesen** 1 (3 400 Wörter.)

1939 **625 .**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 6 April, S. 295.

SERAPHIN (P. H.). — **Verkehrsverlagerungen** Ostseeraum. (3 500 Wörter.)

1939 **385 .09.3 (.**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 6 April, S. 303.

Älteste deutsche **Fernbahn** 100 Jahre im Betr (2 800 Wörter.)

1939 **385 .113 (.**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 13. April, S. 320.

WEHDE-TEXTOR. — Die **japanischen Eisenbah** im Geschäftsjahr 1936-37. (2 700 Wörter.)

In English.

Engineer. (London.)

1939 **621 .13 (0 (.42 + .**
& 656 .222.1 (.42 + .

Engineer, No. 4340, March 17, p. 336; No. 4342, March p. 396; No. 4343, April 7, p. 427 and No. 4 April 14, p. 457.

LIVESAY (E. H.). — North American and Eng **locomotive experiences.** (22 000 words & fig.)

1939 **385 .11 (.**

Engineer, No. 4340, March 17, p. 348 and No. 4 March 24, p. 367.

The British Railways. — A statistical survey. (8 words.)

1939 **669. (06 (.**

Engineer, No. 4340, March 17, p. 352; No. 4341, March p. 385 and No. 4342, March 31, p. 403.

The Institute of Metals. Creep of lead. Anti-fric alloys. Embrittlement of tin. Etc. (13 000 words

---

1939

Engineer, No. 4340, March 17, p. 357.

GARCKE (S. E.). — **Comfort in travel.** (4 900 wor

1939 **621 .4**
gineer, No. 4341, March 24. p. 378.)
HARLTON (A.). — **The coal dust engine.** (2 400 ds.)

1939 **62. (01**
gineer, No. 4341, March 24, p. 380.
pectograph equipment. (2 000 words & fig.)

1939 **621 .392**
gineer, No. 4341, March 24, p. 382.
lectric welding sets. (600 words & fig.)

1939 **62. (01 & 669. (06 (.42)**
gineer, No. 4341, March 24, p. 387.
WYMAN (F.). — **Spectography** in the non-ferrous allurgical industry. (4 600 words.)

1939 **621 .43**
gineer, No. 4342, March 31, p. 398.
il engine temperature and deflection measurements. 00 words & fig.)

1939 **62. (01**
gineer, No. 4342, March 31, p. 409.
pectroscopy in industry. (1 400 words.)

1939 **621 .131.2 (.44)**
gineer, No. 4342, March 31, p. 411.
team locomotive experiments. (1 700 words.)

1939 **625 .144.4 (.42)**
gineer, No. 4342, March 31, p. 412.
aying long rails in the tube. (500 words & fig.)

1939 **62. (01 & 621 .116**
gineer, No. 4342, March 31, p. 418.
DESCH (C. H.). — **Intercrystalline cracking in boiler tes.** (4 700 words.)

1939 **621 .7 (.42)**
gineer, No. 4343, April 7, p. 430.
Babcock & Wilcox's Renfrew Foundries. The Iron ndry. (1 800 words & fig.)

1939 **621 .43 & 662**
gineer, No. 4343, April 7, p. 432 and No. 4344, April 14, p. 475.
Coal as fuel for internal combustion engines. (11 500 rds.)

1939 **621 .392**
gineer, No. 4343, April 7, p. 447.
PEMBERTON (H. N.). — **Welding** in marine engi- ring construction. (7 400 words & fig.)

1939 **624 .61 (.42)**
gineer, No. 4344, April 14, p. 459.
Widening of Richmond bridge (London). (2 000 words ig.)

1939 **621 .43 (.45)**
gineer, No. 4344, April 14, p. 477.
talian 260 h. p. railcars. (200 words & fig.)

Engineering. (London.)

1939 **669. (06 (.42)**
Engineering, No. 3818, March 17, p. 304, No. 3819, March 24, p. 331 and No. 3820, March 31, p. 362.
THE INSTITUTE OF METALS. The creep of lead. Annealing of copper alloys containing chromium. Elastic properties of anti-friction alloys, etc. (13 000 words.)

1939 **62. (01**
Engineering, No. 3818, March 17, p. 306.
Portable projection microscope. (700 words & fig.)

1939 **621 .116**
Engineering, No. 3818, March 17, p. 320.
Boiler feed-water treatment. (1 800 words.)

1939 **621 .43 (.84)**
Engineering, No. 3818, March 17, p. 324.
Diesel locomotive for the Guaqui-La Paz Railway. (1 500 words & fig.)

1939 **621 .31**
Engineering, No. 3819, March 24, p. 337.
Developments in **switchgear design.** (3 000 words & fig.)

1939 **621. (06 (.42) & 621 .43**
Engineering, No. 3819, March 24, p. 346.
The Institution of Mechanical Engineers. **The energy balance sheet of the internal combustion engine.** (2 400 words.)

1939 **621 .333**
Engineering, No. 3819, March 24, p. 354.
The metadyne and its application to electric traction. (2 300 words & fig.)

1939 **621 .7 (.42)**
Engineering, No. 3820, March 31, p. 359.
The Renfrew Foundries of Messrs. Babcock & Wilcox, Limited. (6 200 words & fig.)

1939 **621 .116**
Engineering, No. 3820, March 31, p. 367.
Pressure-loaded reducing valve. (1 600 words & fig.)

1939 **62. (01 & 669**
Engineering, No. 3820, March 31, p. 384.
TWYMAN (F.). — Industrial application of **spectrography** in the non-ferrous metallurgical industry. (4 300 words.)

1939 **621 .43**
Engineering, No. 3820, March 31, p. 388 and No. 3822, April 14, p. 448.
LANCHESTER (F. W.). — **The energy balance sheet of the internal combustion engine.** (6 500 words.)

1939 **621 .392 (.493) & 624. (.493)**
Engineering, No. 3821, April 7, p. 395.
NEEDHAM (E. S.). — **The Hasselt bridge collapse.** (2 800 words & fig.)

1939 **536 & 621 .115**
Engineering, No. 3821, April 7, p. 416.
MEYER (Dr. Fr.). — **The extraction of condensate from expanding steam.** (5 200 words & fig.)

1939 **621 .9**
Engineering, No. 3821, April 7, p. 418.
GRODZINSKI (P.). — **The mounting of diamonds for turning and boring tools.** (1 500 words & fig.)

1939 **533. (.42)**
Engineering, No. 3822, April 14, p. 423.
Wind-tunnel equipment of Messrs Blackburn Aircraft Limited. (2 000 words & fig.) (To be continued.)

1939 **613 & 621 .43**
Engineering, No. 3822, April 14, p. 440.
The noise of motor vehicles. (2 400 words.)

1939 **621 .43 & 662**
Engineering, No. 3822, April 14, p. 442.
Coal as fuel for internal combustion engines. (3 700 words.)

1939 **621 .31**
Engineering, No. 3822, April 14, p. 446.
Flameproof air-break switchgear. (600 words & fig.)

1939 **62. (01, 621 .39 & 669 .1**
Engineering, No. 3822, April 14, p. 451.
HAIGH (B. P.) and ROBERTSON (T. S.). — **Fatigue in structural steel plates with riveted or welded joints.** (3 500 words, tables & fig.)

Engineering News Record. (New York.)

1939 **624 .63 (.71)**
Engineering News Record, No. 13, March 30, p. 49.
Concrete superstructure on steel bridge. (1 000 words & fig.)

1939 **62. (01 (.73) & 627 .82 (.73)**
Engineering News Record, No. 13, March 30, p. 58.
McHENRY (D.) and CARLSON (R. W.). — **Measuring dam behavior.** (2 000 words & fig.)

Journal, Institute of Transport. (London.)

1939 **656 .234**
Journal, Institute of Transport, April, p. 228.
CHAMBERS (J. C.). — **Interavailability of tickets by rail, road, sea and air.** (14 000 words.)

1939 **656 .225 & 656 .235**
Journal, Institute of Transport, April, p. 242.
FENELON (Dr. K. G.). — **Transport in relation to the agricultural and fishing industries.** (5 800 words.)

1939 **629 .13 & 656 .1**
Journal, Institute of Transport, April, p. 248.
GARCKE (S. E.). — **Comfort in travel — by road.** (5 200 words.)

Journal, Institution of Civil Engineers. (London.)

1939 **624 .62 (.4**
Journal, Institution of Civil Engineers, April, p.
MAUNSELL (G. A.) and PAIN (J. F.). — **Storstrom bridge.** (Paper — abridged — and discussion.) (25 000 words & fig.)

1939 **625 .42 (.42) & 725 .31 (.**
Journal, Institution of Civil Engineers, April, p.
HARLEY-MASON (J. H.). — **Reconstruction of gate East Station.** (19 500 words & fig.)

1939
Journal, Institution of Civil Engineers, April, p.
Comfort in travel. (8 000 words.)

1939 **623. (**
Journal, Institution of Civil Engineers, April, p.
CLERKE (R. W. G.). — **Constructional work on raid shelters** and other protective works. (3 600 w & fig.)

Journal, Institution of Engineers, Australia (Sydney.)

1939 **624 .52 (**
Journal, Institution of Engineers, Australia, Febru p. 53.
HOLT (J. A.). — **Story bridge, Brisbane.** (1 words & fig.)

Journal and Proceedings, Institution of Mechanical Engineers. (London.)

1939 **625**
Journal & Proceedings, Institution of Mechanical gineers, April, p. 48.
Brake linings. (6 700 words.)

1939 **62. (01 & 621**
Journal & Proceedings, Institution of Mechanical gineers, April, p. 87.
TAUB (A.). — **Cylinder bore wear.** (Paper and cussion.) (20 000 words & fig.)

1939 **62. (01 & 66**
Journal & Proceedings, Institution of Mechanical gineers, April, p. 175.
GOUGH (H. J.) and WOOD (W. A.). — **Deforma and fracture of mild steel under cyclic stresses in tion to crystalline structure.** (9 600 words & fig.)

Mechanical Engineering. (New York.)

1939 **621 .116 & 621**
Mechanical Engineering, April, p. 287.
HODGKINSON (F.). — Latest developments of **Benson boiler.** Description of typical installat (4 400 words & fig.)

Modern Transport. (London.)

39 **621 .33 (.44)**
ern Transport, No. 1044, March 18, p. 3.
ilway electrification in France. The South Western on. (2 100 words & fig.)

---

39 **385 .1 (.8)**
ern Transport, No. 1044, March 18, p. 4.
ansport in Latin America. The railway position. ic works plan. (1 000 words.)

---

39 **625 .11 (.63)**
ern Transport, No. 1044, March 18, p. 4.
alian East African Communications. Railway and plans. (800 words.)

---

39 **621 .43 (.42)**
ern Transport, No. 1044, March 18, p. 7.
supercharged diesel locomotive. For service at high udes. (1 900 words & fig.)

---

39 **656. (.495)**
ern Transport, No. 1045, April 1, p. 3.
LAKE (Major W. T.). — **Travel conditions** in ce. (2 400 words & 1 map.)

---

39 **621 .7 (.42)**
ern Transport, No. 1045, April 1, p. 5.
anufacture of steel and iron castings in Scotland. ern methods and efficient plant. (2 500 words &

---

39 **656. (.5)**
ern Transport, No. 1045, April 1, p. 7.
RENDERGAST (W. H.). — From the Persian Gulf stambul. **Through Iraq by rail an road.** (1 700 ls & 1 map.)

---

39 **385. (01 (.61 + .66)**
ern Transport, No. 1047, April 8, p. 3.
ıe Trans-Sahara Railway. (1 300 words & fig.)

---

39 **621 .43**
ern Transport, No. 1047, April 8, p. 6.
1 engines for rail transport. Multiple unit trains. 00 words.)

---

39 **629 .113 .62 (.42)**
lern Transport. No. 1048, April 15, p. 3.
rameless trolleybuses for London. Vehicles of C. W. construction. Six-wheelers with A. E. C. ing gear. (1 400 words & fig.)

---

939 **625 .244 (.44)**
lern Transport, No. 1048, April 15, p. 4.
efrigerated rolling stock. (1 000 words.)

---

939 **623. (.42)**
lern Transport, No. 1048, April 15, p. 4.
. R. P. shelters for factories. 1 — Problem of light- (1 000 words.) (To be continued.)

1939 **385. (064 (.73)**
Modern Transport, No. 1048, April 15, p. 5.
Railways at New York world's fair. (1 100 words & fig.)

1939 **621 .43 & 629 .113.5**
Modern Transport, No. 1048, April 15, p. 7.
Diesel engines in road transport. (1 700 words & fig.)

1939 **621 .33 (.42)**
Modern Transport, No. 1048, April 15, p. 15.
Railway electrification. Southern Railway methods. (2 000 words.)

Proceedings, American Society of Civil Engineers. (New York.)

1939 **725 .33**
Proceedings American Society of Civil Engineers, March, p. 419.
SALTER (G. S.). — **Design of circular concrete tanks.** (3 000 words & fig.)

Railway Age. (New York.)

1939 **621 .13 & 621 .43**
Railway Age, No. 11, March 18, p. 459.
SILLCOX (L. K.). — **Steam or diesel-electrics ?** (4 400 words & tables.)

1939 **621 .43**
Railway Age, No. 11, March 18, p. 466.
Uses auto-railer to advantage. (1 100 words & fig.)

1939 **625 .1 (06 (.73)**
Railway Age, No. 11, March 18, p. 468.
AMERICAN RAILWAY ENGINEERING ASSOCIATION has successful meeting. Fortieth annual convention, involving three-day program, was marked by intensive activity in the interest of **greater efficiency and economy.** (25 000 words.)

1939 **656 .25 (06 (.73)**
Railway Age, No. 11, March 18, p. 492.
A. A. R. SIGNAL SECTION meets in Chicago (March 13 and 14). **Discussions of costs involved in stopping trains, crossing protection, and economic value of battery-lighted switch lamps** feature two day program. (4 900 words.)

1939 **621 .13 (0 & 625 .143.3**
Railway Age, No. 12, March 25, p. 513.
Relation of locomotive design to rail maintenance. (8 000 words & fig.)

1939 **625 .232 (.42 + .73)**
Railway Age, No. 13, April 1, p. 553.
The British « **Coronation Scot** » now touring in America. (3 400 words & fig.)

1939 **656 .212.5 (.73)**
Railway Age, No. 13, April 1, p. 558.
OWEN (L. D.). — Counting the cost of special **switching service.** (2 400 words.)

1939 **625 .172 (.73) & 625 .245 (.73)**
Railway Age, No. 13, April 1, p. 566.
Chesapeake & Ohio develops **new track inspection car.** (2 800 words & fig.)

1939 **656 .258 (.73)**
Railway Age, No. 14, April 8, p. 607.
BENDER (F. W.). — **Route interlocking** on the Central Railroad of New Jersey. (4 000 words & fig.)

1939 **625 .144.2 & 691**
Railway Age, No. 14, April 8, p. 611.
Creosote mixtures used for **wood preservation.** (400 words & tables.)

1939 **621 .132.3 (.42)**
Railway Age, No. 14, April 8, p. 619.
Pacific type locomotive hauls « Coronation Scot ». (2 400 words & fig.)

Railway Gazette. (London.)

1939 **621 .131.2**
Railway Gazette, No. 11, March 17, p. 460; No. 12, March 24, p. 500; No. 13, March 31, p. 541 and No. 14, April 7, p. 579.
STANIER (W. A.). — Problems connected with **locomotive design.** (5 400 words & fig.)

1939 **625 .18 (.42)**
Railway Gazette, No. 11, March 17, p. 463.
A district engineer's central depot organisation. (1 700 words & fig.)

1939 **621 .135.1 (.42)**
Railway Gazette, No. 11, March 17, p. 467.
Screen wipers for locomotives. (500 words & fig.)

1939 **656 .253 (.469)**
Railway Gazette, No. 11, March 17, p. 469.
Power signalling in Portugal. (1 000 words & fig.)

1939 **656 .222.1 (.43)**
Railway Gazette, No. 11, March 17, p. 479.
Accelerations in Germany. (700 words.)

1939 **621 .392 (.73) & 625 .143 (.73)**
Railway Gazette, No. 12, March 24, p. 503.
Butt-welding of rails by oxy-acetylene. (600 words.)

1939 **621 .135 (01 (.54)**
Railway Gazette, No. 12, March 24, p. 504.
Eliminating hammer blow. (800 words.)

1939 **625 .251 (.42)**
Railway Gazette, No. 12, March 24, p. 505.
Vacuum brake demonstration plant. (900 words & fig.)

1939 **624 .52 (.54)**
Railway Gazette, No. 12, March 24, p. 509.
Jubilee of the **Landsdowne bridge.** (1 100 words & fig.)

1939 **621 .132.6 (**
Railway Gazette, No. 12, March 24, p. 513.
New series **tank locomotives,** Great Western Railv

1939 **656 .212.5 (**
Railway Gazette, No. 12, March 24, p. 518.
Mr. T. W. Royle on **marshalling yard modernisa**
Lecture to the Railway Students' Association at
London School of Economics. (3 800 words.)

1939 **656 .212.5 (**
Railway Gazette, No. 12, March 24, p. 521.
Willesden **marshalling yard.** L. M. S. R. (500 w
& fig.)

1939 **385 .113 (**
Railway Gazette, supplement to the issue of March
Financial and operating results of the British G
Railways in 1938. (6 400 words & tables.)

1939 **621 .132.8 (**
Railway Gazette, No. 13, March 31, p. 545.
French **locomotive with velox boiler.** (1 100 wor
fig.)

1939 **625 .232 (.**
Railway Gazette, No. 13, March 31, p. 547.
New passenger stock, New Zealand Railways.
words & fig.)

1939 **621 .7 (**
Railway Gazette, No. 13, March 31, p. 548.
An up-to-date foundry. (1 300 words & fig.)

1939 **621 .132.3 (**
Railway Gazette, No. 13, March 31, p. 550.
The Daylight express and its locomotives. (
words & fig.)

1939 **621 .95 (**
Railway Gazette, No. 13, March 31, p. 552.
Machines for cylinder and piston valve liner bo
Details of modern L. M. S. R. practice. (2 500 wor
fig.)

1939 **656 .254 (**
Railway Gazette, No. 14, April 7, p. 581.
A. T. C. on the German State Railway. (1 300 w
& 1 map.)

1939 **625 .162 (.42) & 625 .259 (**
Railway Gazette, No. 14, April 7, p. 586.
Traffic lights at road and rail crossings. (1 600 w
& fig.)

1939 **625 .162 & 656**
Railway Gazette, No. 14, April 7, p. 588.
Warning signals at level crossings. (1 200 word

1939 **388. (**
Railway Gazette, No. 14, April 7, p. 590.
Traffic conditions in Canada. (1 400 words & fig

39 **621 .231 (.42)**
vay Gazette, No. 14, April 7, p. 592.
ctifier for trolleybus substations. (1 300 words &

39 **656 .261 (.42)**
vay Gazette, No. 15, April 14, p. 604.
ilhead distribution. (700 words.)

39 **385 .114 (.73) & 621 .13 (0 (.73)**
vay Gazette, No. 15, April 14, p. 605.
riking locomotive results in America. (500 words.)

39 **656 .222.1 (.42)**
vay Gazette, No. 15, April 14, p. 606.
)-ton express trains. (700 words.)

39 **621 .335 (.44) & 656 .222.1 (.44)**
ric Railway Traction, p. 32, supplt. to the Railway Gazette, March 31.
gh-speed test runs in France. (800 words & fig.)

39 **621 .331**
tric Railway Traction, p. 33, supplt. to the Railway Gazette, March 31.
AIRBURN (C. E.). — The evolution of electric trac- substations. (2 200 words & fig.)

39 **625 .4 (.47)**
tric Railway Traction, p. 38, supplt. to the Railway Gazette, March 31.
ie Moscow Metro. Its present status. (800 words & ap.)

)39 **621 .43**
el Railway Traction, p. 54, suppl. to the Railway Gazette, April 14.
OFFMANN (Dr. J. L.). — Railcar tractive effort.)0 words & fig.)

)39 **621 .13 & 621 .32**
tric Railway Traction, p. 55, supplt. to the Railway Gazette, April 14.
ack lights for driving cabs. (300 words.)

)39 **621 .43 (.41)**
tric Railway Traction, p. 56, supplt. to the Railway Gazette, April 14.
ish suburban railcar. (300 words & fig.)

)39 **385 .586 (.44)**
tric Railway Traction, p. 57, supplt. to the Railway Gazette, April 14.
ARCAVI (G.). — The training of railcar drivers. 00 words.)

939 **621 .43 (.62)**
tric Railway Traction, p. 58, supplt. to the Railway Gazette, April 14.
iesel cars for freight traffic. (700 words & fig.)

939 **621 .43 & 625 .234**
tric Railway Traction, p. 59, supplt. to the Railway Gazette, April 14.
ailcar heating by exhaust-gas boilers. (600 words ig.)

1939 **621 .43 (.85)**
Diesel Railway Traction, p. 60, supplt. to the Railway Gazette, April 14.
Diesel locomotive for Peru. (500 words & fig.)

1939 **621 .43 (.43)**
Diesel Railway Traction, p. 61, supplt. to the Railway Gazette, April 14.
Main-line diesel cars in Central Europe. (3 100 words & fig.)

1939 **621 .43 (.941) & 625 .235 (.941)**
Diesel Railway Traction, p. 66, supplt. to the Railway Gazette, April 14.
Folding steps for railcars. (500 words & fig.)

1939 **621 .43 (.489) & 656 .222.1 (.489)**
Diesel Railway Traction, p. 68, supplt. to the Railway Gazette, April 14.
HEDEGAARD CHRISTENSEN (C. C.). — Danish express railcar services. (1200 words.)

Railway Magazine. (London.)

1939 **621 .113 (.44)**
Railway Magazine, No. 502, April, p. 237.
The main-line gradients of French railways. Northern region, Paris to Liége and Brussels. (500 words, tables & fig.)

1939 **656 .222.1 (.42)**
Railway Magazine, No. 502, April, p. 241.
British express trains in the summer of 1938. (2 500 words & tables.)

1939 **656 .222.1 (.42)**
Railway Magazine, No. 502, April, p. 247.
ALLEN (C. J.). — British locomotive practice and performance. (5 000 words, tables & fig.)

1939 **385. (074 (.43)**
Railway Magazine, No. 502, April, p. 265.
The Berlin transport museum. (1 000 words & fig.)

Railway Mechanical Engineer. (New York.)

1939 **625 .232 (.73)**
Railway Mechanical Engineer, April, p. 127.
The Seaboard Air Line inaugurates the « Silver Meteor ». (2 500 words & fig.)

1939 **621 .131**
Railway Mechanical Engineer, April, p. 132.
BUCKWALTER (T. V.) and HORGER (C. J.). — Results and conclusions of locomotive slipping tests. (4 600 words & fig.)

1939 **313 : 625 .234 (.7)**
Railway Mechanical Engineer, April, p. 139.
Passenger cars air-conditioned during 1938 and nine years summary. (Tables.)

1939 **625 .234 (.73)**
Railway Mechanical Engineer, April, p. 142.
Wet-bulb thermostat controls air-conditioning unit. (1 600 words & fig.)

1939 **625 .246 (.73)**
Railway Mechanical Engineer, April, p. 143.
Appex safety-steel running board for box cars. (800 words & fig.)

1939 **625 .26 (.73)**
Railway Mechanical Engineer, April, p. 156.
Box car repairs with small working force. (800 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **624 .1 & 625 .13**
Railway Engineering and Maintenance, April, p. 230.
WILLIAMS (N. H.). — **Checking the steam bed about bridges.** (2 200 words & fig.)

1939 **621 .43, 625 .144.4 & 625 .173**
Railway Engineering and Maintenance, April, p. 238.
Cotton belt proves **versatility of the tractor.** (1 100 words & fig.)

1939 **625 .143.4 (.73)**
Railway Engineering and Maintenance, April, p. 240.
Rail end hardening on the Pennsylvania. (1 800 words & fig.)

1939 **625 .151**
Railway Engineering and Maintenance, April, p. 242.
BISHOP (F. J.). — **Switch point guards** for turnouts in yards. (600 words.)

1939 **613 .66 (.73) & 625 .144.4**
Railway Engineering and Maintenance, April, p. 243.
How one railroad checks **safety of tools.** (800 words.)

1939 **625 .13 (.73)**
Railway Engineering and Maintenance, April, p. 244.
Dismantle—move—re-erect long icing platform. (1 900 words & fig.)

Railway Signaling. (Chicago.)

1939 **656 .257 (.73)**
Railway Signaling, March, p. 139.
BENDER (F. W.). — **Route interlocking** on the Central Railroad of New Jersey. (7 200 words & fig.)

1939 **656 .258 (.73)**
Railway Signaling, March, p. 148 and April, p. 215.
San Francisco-Ookland Bay Bridge **signaling and interlocking.** (11 000 words & fig.)

1939 **656 .259 (.73)**
Railway Signaling, March, p. 155.
Southern Pacific uses **special protection.** (5 000 words & fig.)

1939 **656 .222.1 & 656**
Railway Signaling, April, p. 223.
GAULT (P. M.). — **Speeding up train operation** signaling. (4 000 words.)

1939 **621 .39 & 656**
Railway Signaling, April, p. 227.
STILWELL (W. H.). — **Electric lights for se** phores. (900 words & fig.)

1939 **656 .257 (**
Railway Signaling, April, p. 229.
Remote control of crossing signals saves train st (1 200 words & fig.)

1939 **62. (01 & 656**
Railway Signaling, April, p. 232.
HILLIG (J. E.). — **Portable field testing appara** (2 400 words & fig.)

1939 **625 .144.4 & 625**
Railway Signaling, April, p. 236.
Bitumeter measures distances on Wabash. (700 w & fig.)

The Locomotive. (London.)

1939 **621 .132.3 (**
The Locomotive, No. 560, April 15, p. 96.
New express locomotives, German State Railv (300 words & fig.)

1939 **621 .132.1 (**
The Locomotive, No. 560, April 15, p. 99.
Central Uruguay Railway, **2-8-0 reconstructed motives.** (2 200 words & fig.)

1939 **621 .335 (.**
The Locomotive, No. 560, April 15, p. 103.
Swiss Federal Railways' **electric shunting locomot** (300 words & fig.)

1939 **621 .132.3 (.**
The Locomotive, No. 560, April 15, p. 104.
DERENS (L.). — **The Dutch State Railways Co** ny's locomotives. (2 200 words & fig.)

1939 **621 .1**
The Locomotive, No. 560, April 15, p. 108.
PHILLIPSON (E. A.). — The **steam locomotiv** traffic. (2 000 words & fig.)

1939 **625**
The Locomotive, No. 560, April 15, p. 114.
Air conditioning of passenger stock. (900 words.)

The Oil Engine. (London.)

1939 **621**
The Oil Engine, No. 72, April, p. 364.
Modern combustion systems. A review of pr British practice. (2 400 words & fig.)

39 621 .43 (.73)
Oil Engine, No. 72, April, p. 371.
ANN (Ch. F. A.). — **New 2 000 b. h. p. stream-train** for the New York-Florida service. (500 s & fig.)

39 621 .43 & 662
Oil Engine, No. 72, April, p. 372.
al and its derivatives as fuels for internal-com-ion engines. (2 800 words.)

39 621 .43 (0
Oil Engine, No. 72, April, p. 383.
atures of the diesel engine. Some simple but definitions, arranged in readable form, dealing the principles of construction and operation of l engines. (1 500 words.)

39 621 .43 (.54)
Oil Engine, No. 72, April, p. 385.
lia's latest diesel railcars. (600 words & fig.)

39 621 .43 (.492)
Oil Engine, No. 72, April, p. 387.
w five-car diesel trains for Holland. (1 300 words .)

In Spanish.

tín de la Asociación internacional permanente l Congreso Sudamericano de ferrocarriles. (Buenos Aires.)

39 656
tín de la Asoc. intern. perm. del Congreso Sudamer. le ferrocarriles, enero-febrero, p. 13.
CBUELTO (E.). — Combinación de **transportes viarios y camineros.** (12 200 palabras.)

39 621 .43
tín de la Asoc. intern. perm. del Congreso Sudamer. le ferrocarriles, enero-febrero, p. 45.
IEASANT (H. E.). — Los **coches motores.** (7 000 oras.)

39 385. (09 (.87)
tín de la Asoc. intern. perm. del Congreso Sudamer. le ferrocarriles, enero-febrero, p. 65.
ALBO (L.). — Los **ferrocarriles** de Venezuela. (1 900 bras.)

In Italian.

Annali dei lavori pubblici. (Roma.)

39 624 .63 (.45)
ali dei lavori pubblici, febbraio, p. 191.
l'arcata della luce di M. 45 in calcestruzzo non ar- per il ponte sul Nera della strada Nera Montoro-. (4 500 parole & fig.)

La tecnica professionale. (Firenze.)

1939 385 .113 (.45)
La tecnica professionale, aprile, p. 73.
Il **traffico** delle Ferrovie dello Stato dopo l'anno 1929-30. (2 300 parole & fig.)

1939 62. (01
La tecnica professionale, aprile, p. 77.
SPANI (D. F.). — I **raggi X** e loro applicazioni industriali. (2 800 parole & fig.)

L'Ingegnere. (Roma.)

1939 621 .337
L'Ingegnere, 15 marzo, p. 210.
MALUSARDI (F.). — La **metadinamo.** (3 500 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Roma).

1939 625 .13 (.45)
Rivista tecnica delle ferrovie ital., n° 3, 15 marzo, p. 125.
PRUNAS (P.). — **Sistemazione della galleria** Monte Giuseppe sulla linea Bolzano-Malles. (3 300 parole & fig.)

1939 385 .57 (.45)
Rivista tecnica delle ferrovie ital., n° 3, 15 marzo, p. 138.
FANELLI. — Apparecchio registratore e misuratore di tempi per il **laboratorio di psicotecnica** delle Ferrovie Italiane dello Stato. (10 200 parole & fig.)

1939 625 .232 (.45)
Rivista tecnica delle ferrovie ital., n° 3, 15 marzo, p. 169.
PEDEMONTI (G.). — **Nuove carrozze di III classe** a sedili imbottiti costruite dalle Ferrovie dello Stato italiano per i servizi diretti internazionali. (1 600 parole & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 656 .1 & 656 .2
Trasporti e lavori pubblici, marzo, p. 79.
Le ferrovie ostacolano la ripresa dello automobilismo? (4 000 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 62. (01 & 721 .9
De Ingenieur, nr 14, 7 April, p. Bt. 33.
KIST (J.). — **Meting van doorbuigingen en spanningen** van een gewapend betonplaat, waarop geconcentreerde lasten werden aangebracht. (2 700 woorden & fig.)

1939 **624.** (.492)
De Ingenieur, nr 15, 14 April, p. B. 39.
HARMSEN (W. J. H.). — **Bruggenbouw** in verband met den aanleg van het Rijkswegennet in Nederland. (11 000 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

1939 **621** .43 (.497.1)
Spoor- en Tramwegen, n° 7, 1 April, p. 151.
DUSAN D. LONCAREVIC. — **Motortreinstel** voor smalspoor van 76 cm. (1 400 woorden & fig.)

1939 **656** .212.5
Spoor- en Tramwegen, nr 7, 1 April, p. 153.
BREUKELMAN (W. A.). — Het bepalen van een **bedrijfsplan voor rangeerstations.** (3 900 woorden.)

1939 **621** .131.1 (.68)
Spoor- en Tramwagen, n° 8, 15 Aprile, p. 171.
Nieuwe **locomotieven** voor Zuid-Africa. (1 000 woorden & fig.)

1939 **656** .212.5
Spoor- en Tramwegen, nr 8, 15 April, p. 174.
BREUKELMAN (W. A.). — Het bepalen van een **bedrijfsplan voor rangeerstations.** (2 000 woorden & 6 Tabellen.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa.)

1939 **624** .32 (.438) = **91** .885
Inzynier Kolejowy, No. 3, p. 129.
SZELAGOWSKI (F.). — **Railway bridge** on the Warsaw-Gdynia line. (1 800 words & fig.)

1939 **625** .165 = **91** .885
Inzynier Kolejowy, No. 3, p. 139.
GROBICKI (V.). — **Approach roads to railway stations.** (9 500 words & fig.)

1939 **385** .57 = **91** .885
Inzynier Kolejowy, No. 3, p. 148.
KOWALSKI (W.). — **Results of psychotechnical examinations** and how the opinions of the heads of the various services agree therewith. (3 000 words.)

1939 **625** .21 = **91** .885 & **621** .134 = **91**
Inzynier Kolejowy, No. 3, p. 150.
GLOWACZ (J.). — **Rolling stock bearing manu**turing methods. (1 800 words.)

1939 **385** .571 (.438) = **91**
Inzynier Kolejowy, No. 4, p. 165.
PATOCZKA (J.). — Scheme for a **training ce**for Polish State Railway Officers. (5 600 words.)

1939 **385** .571 (.432) = **91**
Inzynier Kolejowy, No. 4, p. 169.
CYWINSKI (B.). — **Railway training centre and**pected results. (4 000 words.)

1939 **625** .211 = **91**
Inzynier Kolejowy, No. 4, p. 173.
PONIKOWSKI (J.). — **Railway surveying.** (words.)

1939 **621** .133.3 = **91**
Inzynier Kolejowy, No. 4, p. 177.
FEDERMAN (W.). — **Boiler inspection.** (6 200 wo

In Portuguese.

Gazeta dos caminhos de ferro. (Lisboa.)

1939 **656.** (.4
Gazeta dos Caminhos de Ferro, 1 de abril, p. 191; 1
Abril p. 217.
de SOUZA (F.). — O problema nacional ferrov
e a **coordenação dos transportes.** (4 300 palavras.)

1939 **656.** (.4
Gazeta dos Caminhos de Ferro, 16 de abril, p. 209.
de SOUZA (F.). — O congresso nacional de tr
portes. (2 200 palavras.)

1939 **385.**
Gazeta dos Caminhos de Ferro, 16 de abril, p. 214.
RUAS (A.). — **Evolução do tráfego** de algunos
minhos de ferro nos anos de 1928 a 1937. (200 pala
& fig.)

Revista das Estradas de ferro. (Rio de Janei

1939
Revista das Estradas de ferro. n° 328, 15 de ma
p. 2263.
Coordenação de transportes. (2 200 palavras.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(JULY 1939)

916. 385. 02]

I. — BOOKS.

In French.

39 62. (01

OSHENKO (S.).

éorie des vibrations.

ris et Liége, Librairie Polytechnique Ch. Béranger. lume (16 × 25 cm.), 482 pages et 229 figures. : 250 fr. français.)

39 31 & 33

BERGEN (J.).

ne méthode et son application au mouvement des stissements.

nève, Service d'Etudes Economiques de la S. D. N. lume, 178 pages et graphiques.

38 347 .762

VERS (M.).

droit commercial international, volume V, fasci- III : l'Union de Rome (Transport des marchan-, CIM du 23 novembre 1933).

ris, Librairie du Recueil Sirey, 22, rue Soufflot. lume, 831 pages.

In German.

38 669

NK (F.).

rtschritte auf dem Gebiete der Leichtmetalle 1936-

rlin, N. E. M. Verlag Dr. Georg Lüttke. 1 Heft, eiten. (Preis : 6 R. M.)

38 624. (06

ternationale Vereinigung für Brückenbau und Hoch- 1.-11. Oktober 1936. Schlussbericht. Deutsche gabe.

rlin, W. Ernst & Sohn. 1 Band, 981 Seiten, Abbil- gen und Tafeln. (Preis : 24 R. M.)

1938 721. (02)

KIRCHHOFF (R.).

Die Statik der Bauwerke.

Berlin, Wilhelm Ernst und Sohn. 1 Band, 178 Abbildungen. (Preis : 20 R. M.)

1939 656 .254 (.43)

KRAUSKOPF.

Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn.

Berlin, Wien und Leipzig, Otto Elsner Verlagsgesellschaft. 1 Band, 165 Seiten und 283 Abbildungen. (Preis: 6.40 R.M.)

1939 656 .25

Massnahmen zur Abwendung von Betriebsgefahren bei Störungen im Block- und Stellwerkdienst und besonderen Vorkommnissen im Betriebe. Mit 66 Störungen oder sonstigen Unregelmässigkeiten.

Berlin, Beamtenpresse G. m. b. H. (Preis : 1.35 R.M.)

1938 691 & 721 .9

MORSCH (E.).

Bemessungstafeln für das Entwerfen von Eisenbetonbauten.

Stuttgart, K. Wittwer. 1 Band, 58 Seiten, 26 Tafeln und 9 Abbildungen. (Preis : 8.50 R.M.)

1938 665 .882

SCHIMPKE (P.) und HORN (Hans A.).

Praktisches Handbuch der gesamten Schweisstechnik.

Berlin, Julius Springer. 1 Band, 300 Seiten, 347 Abbildungen und 22 Tabellen. (Preis : 18 R.M.)

1938 621 .89

TRAEG (F.).

Fettschmierung.

Berlin, VDI Verlag. 1 Band, 90 Seiten, 1 Ausschlagtafel und 72 Bilder. (Preis : 7.50 R.M.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to lway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 1509).

In English.

1939 **624 .2**

An investigation of rigid frame bridges. — Part 1, Tests of reinforced concrete knee frames and bakelite models. By F. E. Richart, T. J. Dolan, and T. A. Olson. Part 2, Laboratory tests of reinforced concrete rigid frame bridges. By W. M. Wilson, R. W. Kluge, and J. V. Coombe.
Urbana : University of Illinois Engineering Experiment Station, U. S. A. (Price, part 1 : 50 cents net; part 2 : 85 cents net.)

1939 **621 .31**

BLUME (L. F.), GAMILI (G.), BOYAJIAN (A.) and MONTSINGER (V. M.).
Transformer engineering.
New York : John Wiley and Sons, Inc.
London : Chapman and Hall, Ltd. (Price : 25 s. net.)

1939 **669**

CARPENTER (Sir H.) and ROBERTSON (J. M.).
Metals.
London : Oxford University Press. Royal 8vo, 2 vols, pages XI + XII + 1 485. (Price : £ 5-5-0.)

1939 **669 .1 (06**

Eighth report on the heterogeneity of steel ingots.
London : Iron and Steel Institute, 4, Grosvenor Gardens, S. W. 1. (Price : 16 s. net.)

1939 **385 .1 (.73)**

FRITCH (L. C.).
The truth about the railroads.
Privately published at 2265 E, Orange Grove avenue, Pasadena, Cal. 105 pages (8 1/4 in. × 5 1/4 in.) Bound in paper.

1939 **62. (01 & 669**

KEHL (G. L.).
The principles of metallographic laboratory practice.
New York and London : McGraw-Hill Publishing Company, Ltd. 8vo, pages XI + 359. (Price : 21 s.)

1939 **347 .763 (**

MAHAFFY (R. P.).
Mahaffy & Dodson's Road Traffic Acts and Or
— Supplement.
London : Butterworth & Co. (Publishers) Ltd., Yard, Temple Bar, W. C. 2. — 9 3/4 in. × 6 in., 157 + 8 pp. index. (Price : 7 s. 6 d. net.)

1938 **66**

MARSH (J. S.).
Alloys of iron and nickel : Vol. I, Special-pur alloys.
New York and London : McGraw-Hill Publis Company, Ltd. 8vo, pages XII + 593. (Price : 36 s.)

1939 **385.**

RECK (F. M.).
The romance of American transportation.
New York : Thomas Y. Crowell Company. 253 p 9 in. by 6 3/4 in. (Price : $ 2.50.)

1939

SCHIELDROP (E. B.).
The railway (Conquest of space and time series).
London : Hutchinson & Co. (Publishers) Lim 34, Paternoster Row, E. C. 4. 9 1/2 in. × 6 in. 25 Fully illustrated. (Price : 5 s. net.)

1939 **669 .1**

Second report of the Alloy Steels Research Commi
London : Iron and Steel Institute, 4, Grosvenor dens, S. W. 1. (Price : 16 s. net.)

1939 **621**

The modern Diesel. Fifth edition.
London : Iliffe and Sons, Ltd., Dorset House, S ford street, S. E. 1. (Price : 3 s. 6 d. net.)

In Italian.

1939 **621 .43 & 625 .14**

STAGNI (E.).
Stabilità e criteri costruttivi delle automotrici v a scartamento ridotto.
Roma, Estratto dalla « Rivista Tecnica delle Fer Italiane ». 1 folleto, 15 pagine & figure.

[016. 585. (05]

II. — PERIODICALS.

In French.

Annales des Mines. (Paris.)

1938 **313 : 621 .118**

Annales des Mines, décembre, p. 111.
Statistique des **accidents d'appareils à vapeur** survenus au cours des années 1934, 1935, 1936 et 1937. (12 700 mots.)

Annales des Ponts et Chaussées (Paris).

1938 **62. (01 &**

Annales des ponts et chaussées, décembre, p. 773.
LUCAS. — Variations thermo-hygrométriques d **résistance des ciments.** (3 300 mots & fig.)

1939 **625 .4 (**

Annales des ponts et chaussées, janvier, p. 41.
STAHL. — Sur quelques particularités de l'ex tion du **Chemin de fer métropolitain de Paris.** (1 mots & fig.)

Bulletin de la Société des ingénieurs civils de France. (Paris.)

1938 **626 (.493)**

Bull. de la Soc. des ing. civ. de France, septembre-octobre. p. 648.

DELMER. — Le canal **Albert.** (4 000 mots & fig.)

1939 **385 .62 & 385 .63**

Bull. de la Soc. des ing. civ. de France, fascicule n° 6, p. 142.

MARKOVIC (D.). — En vue de faciliter et d'accélérer la ratification des modifications adoptées aux conférences de révision, convient-il de séparer, dans les **conventions internationales,** les dispositions du droit du transport des traités internationaux proprement dits ? (2 700 mots.)

1939 **662 (.44)**

Bull. de la Soc. des ing. civ. de France, fascicule n° 7, p. 167.

BACQUEYRISSE (L.). — **Carburants** nationaux, combustibles et énergies de remplacement. (7 000 mots & fig.)

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

1939 **621 .132.5 (.44)**

Bull. de l'Ass. française des amis des ch. de fer, mars, p. 41.

VILAIN (L.). — Les anciennes **locomotives à marchandises** à quatre essieux accouplés. (1 500 mots & fig.)

1939 **388 & 625 .42**

Bull. de l'Ass. française des amis des ch. de fer, mars, p. 45.

LANGEVIN (M.). — Les **transports dans les grandes villes.** (6 500 mots & fig.)

Bulletin de l'Union Internationale des chemins de fer. (Paris.)

1939 **385. (09 (.492)**

Bull. de l'Union intern. des ch. de fer, mars, p. 77.

Les **Chemins de fer néerlandais** jusqu'à 1939. (5 000 mots.)

1939 **621 .33 (.3)**

Bull. de l'Union intern. des ch. de fer, mars, p. 85.

L'**électrification** des chemins de fer dans les principaux pays du monde en 1938. (4 500 mots.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1939 **313 .385 (.489)**

Bull. des transp. intern. par ch. de fer, avril, p. 175.

Les **Chemins de fer de l'Etat danois** pendant l'exercice 1937-1938. (1 500 mots.)

Bulletin technique de la Suisse romande. (Vevey.)

1939 **621 .33**

Bull. techn. de la Suisse romande, n° 9, 6 mai, p. 121.

Réflexions sur l'**électrification** des chemins de fer, à propos de certaines réalisations récentes. (1 000 mots.)

France Transports. (Paris.)

1939 **656 (.42)**

France Transports, 15 avril, p. 9; 1er mai, p. 12.

DELANNEY (L. H. E.). — **Réglementation du rail et de la route** en matière de tarifs marchandises. (7 100 mots.)

1939 **656**

France Transports, 15 avril, p. 12

GRIGNAN (P.). — Les **services combinés** par rail et par route. (3 000 mots.)

1939 **656 (.44)**

France Transports, 15 mai, p. 13

LAPLAINE (R.). — Les transports privés de marchandises et la **coordination.** (3 700 mots.)

1939 **656 .225 (.44) & 656 .261 (.44)**

France Transports, 15 mai, p. 21.

Nouveaux aspects du « **porte à porte** » dans les transports ferroviaires. (2 200 mots.)

Génie civil. (Paris.)

1939 **621 .114**

Génie civil, n° 2958, 22 avril, p. 345.

Dispositifs récents de **bielles alternatives** de construction allemande. (900 mots & fig.)

1939 **62. (01 & 691**

Génie civil, n° 2959, 29 avril, p. 365.

NICOLSKY (V. A.). — Influence du retrait sur la résistance d'une pièce fléchie en **béton armé.** (800 mots & fig.)

1939 **624 .62 (.73)**

Génie civil, n° 2959, 29 avril, p. 366.

Pont de Middletown sur le Connecticut (Etats-Unis). Montage en porte-à-faux de bow-strings de 183 mètres. (1 400 mots & fig.)

1939 **62. (01 & 669 .1**

Génie civil, n° 2960, 6 mai, p. 380.

MERKLEN (J.) & VALLOT (E.). — Les **alliages fer-carbone** envisagés au point de vue de la sécurité. (4 200 mots & fig.)

1939 **621 .132.8 (.66)**

Génie civil, n° 2961, 13 mai, p. 393.

MARTIN (H.). — Les **locomotives Garratt** des chemins de fer de la Côte d'Ivoire. (3 800 mots & fig.)

1939 **62. (01 & 691**

Génie civil, n° 2961, 13 mai, p. 399.

Essais sur le durcissement rapide de **poutres armées en béton** de ciment fondu. (1 200 mots & fig.)

La Science et la Vie. (Paris.)

1939 **621 .33**

La Science et la Vie, mai, p. 335.

MARCHAND (J.). — Où en est la **traction électrique sur rails ?** (6 600 mots & fig.)

La Technique moderne. (Paris.)

1939 **621 .436 & 662**

La Technique moderne, n° 9, 1er mai, p. 337.

DELPEYROUX (J.). — Le **moteur Diesel rapide.** Les combustibles employés. (7 700 mots & fig.)

1939 **621 .131.3 (.44)**

La Technique moderne, n° 10, 15 mai, p. 361.

CHATEL. — Les **locomotives françaises expérimentales.** (6 200 mots & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **669**

L'Ind. des voies ferrées et des transp. autom., février, p. 30.

SEKUTOWICZ (L.). — Nouvelles méthodes utilisées en **métallurgie** et pour le travail, le choix et les essais des métaux moulés. (10 500 mots & fig.)

1939 **625 .62 (.43)**

L'Ind. des voies ferrées et des transp. autom., février, p. 47.

Coup d'œil historique sur les phases sucessives de **l'évolution des tramways** en Allemagne. — Permanence de leur emploi dans ce pays. (900 mots.)

1939 **621 .89**

L'Ind. des voies ferrées et des transp. autom., février, p. 48.

LEGRAND. — **Huiles de graissage** pour moteurs à explosion d'omnibus automobiles et d'automotrices légères. (1 000 mots & fig.)

1939 **625 .62 (.65), 656 .132 (.65) & 656 .136 (.65)**

L'Ind. des voies ferrées et des transp. autom., mars, p. 65.

GALLOIS (A.). — La rénovation des **transports en commun** de la ville d'Alger. (7 000 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1939 **621 .392**

L'Ossature métallique, mai, p. 235.

GERBEAUX (H.). — Les **ensembles soudés** et la nécessité des profilés spéciaux. (3 800 mots & fig.)

Revue de l'École polytechnique. (Bruxelles)

1939 **621 .33 : 625**

Revue de l'Ecole polytechnique, mars, p. 133.

DANDOY (A.). — Le problème de la **récupéra d'énergie** en traction continue dans les exploitation tramways. (3 000 mots & fig.)

Revue générale des chemins de fer. (Paris.

1939 **385. (09 (**

Revue générale des chemins de fer, mai, p. 339.

LEGOUX. — **Cent ans de banlieue.** (7 200 mots.

1939 **621 .335 (**

Revue générale des chemins de fer, mai, p. 367.

PETITMENGIN. — **Locomotives électriques** de Bu (5 400 mots & fig.)

1939 **656 .257 (**

Revue générale des chemins de fer, mai, p. 378.

WALTER (J.). — Evolution des **postes à pou** (6 000 mots & fig.)

1939 **625 .142.2 (**

Revue générale des chemins de fer, mai. p. 408.

L'autarchie et la **conservation des traverses** en lie. (1 000 mots.)

Société Royale Belge des Ingénieurs et des Industriels. (Bruxelles.)

1939 **665**

Sté Royale belge des Ing. et des Ind., avril, p. 319.

BONHOMME (W.). — Le **chalumeau** et ses pr pales applications. (11 300 mots & fig.)

In German.

Die Lokomotive. (Berlin.)

1939 **621 .13 (**

Die Lokomotive. Mai, S. 53.

REHBERGER. — Die **Lokomotiven** der Eisenb Schiffbrücken über den Rhein. (3 600 Wörter & A

1939 **621 .132.5 (**

Die Lokomotive. Mai, S. 59.

RIEDEL. — Neueste **1 E 1-h 3 Güterzug-Lokom** der Deutschen Reichsbahn Baureihe 45. (3 700 W & Abb.)

1939 **621 .132.5 (**

Die Lokomotive. Mai, S. 67.

SCHMITT (H.). — **2 E 1-Schwartzkopff-Lokomo** für die Araraquara-Bahn. (900 Wörter & Abb.)

1939

Die Lokomotive. Mai, S. 68.

SCHNOCK (P.). — **Parität zwischen Lokomotive Kraftwagen ?** (2 200 Wörter.)

Die Reichsbahn. (Berlin.)

939 **625 .4 (.43)**
Reichsbahn, Heft 17, 26. April, S. 410.
RABSKI (M.). — Vom Bau der Berliner **Nordsüd-**ahn. (2 700 Wörter & Abb.)

---

939 **385 .586 (.43)**
Reichsbahn, Heft 17, 26. April, S. 418.
LAUSS (M.). — **Berufserziehung** bei der Deutschen ehsbahn. (2 700 Wörter.)

---

939 **625 .1 (.43)**
Reichsbahn, Heft 18, 3. Mai, S. 434.
CHMIDT (W.). — Der **Umbau der Schmalspur-**n Heidenau-Altenberg im Osterzgebirge auf Voll-r. (4 800 Wörter & Abb.)

---

939 **621 .33 (.43)**
Reichsbahn, Heft 19, 10. Mai, S. 466.
ürnberg-Saalfeld elektrisch ! (1 500 Wörter & Abb.)

Elektrische Bahnen. (Berlin.)

939 **621 .332**
ktrische Bahnen, März, S. 69.
CHMIDT (H.). — Über die wirtschaftliche Gestal-g der **Stromversorgungsanlagen von Wechselstrom-**nen. (2 900 Wörter & Abb.)

---

939 **621 .335 (.68)**
ktrische Bahnen, März, S. 75.
CHRÖDER (W.). — Deutsche **Güterzuglokomotiven** nart **Bo' Bo'** 3 000 V Gleichstrom für Südafrika. 00 Wörter & Abb.)

---

939 **621 .33**
ktrische Bahnen, März, S. 83.
VEINRATH (H.). — Ein neues Messinstrument zur nlerortseingrenzung im **Fahrleitungsnetz** elektrisch riebener Wechselstrombahnen. (3 000 Wörter & b.)

---

939 **621 .33 (.437)**
ktrische Bahnen, März, S. 88.
BILEK (T.). — **Umbau der elektrischen Lokalbahn** bor-Bechyne auf 1 500 V Fahrdrahtspannung. (900 rter & Abb.)

Glasers Annalen. (Berlin.)

939 **625 .234 (.73)**
sers Annalen, Heft 7, 1. April, S. 84.
BAUR (H.). — **Beleuchtung** der amerikanischen Per-nenwagen. (5 500 Wörter & Abb.)

---

939 **625 .25 (.43)**
sers Annalen, Heft 8, 15. April, S. 95.
SELZ (L.). — **Bremsstoffuntersuchungen** bei der utschen Reichsbahn. (3 800 Wörter & Abb.)

Gleistechnik und Fahrbahnbau. (Karlsruhe).

1939 **625 .162 & 656 .254**
Gleistechnik und Fahrbahnbau, Nr. 7-8, 15. April, S. 57.
HANKER (R.). — Die **Sicherung unübersichtlicher Kreuzungen** von Eisenbahn und Strasse. (2 000 Wörter & Abb.)

1939 **625 .14**
Gleistechnik und Fahrbahnbau, Nr. 7-8, 15. April, S. 61.
PÖSCHL. — Über die **Stabilität des Eisenbahngleises.** (1 100 Wörter & Abb.)

1939 **625 .143.4**
Gleistechnik und Fahrbahnbau, Nr. 7-8, 15. April, S. 63.
OTTO (J.). — Eine neuartige **Schienenstossverbin-dung.** (1 900 Wörter & Abb.)

1939 **625 .19**
Gleistechnik und Fahrbahnbau, Nr. 7-8, 15. April, S. 67.
Die mehrfache **Verwendung von Eisenbahnschienen.** (2 000 Wörter & Abb.)

1939 **625 .19**
Gleistechnik und Fahrbahnbau, Nr. 9-10, 15. Mai, S. 73.
RAAB (F.). — **Erdrutsch** an einem Eisenbahnein-schnitt und Untersuchungen über seine Ursachen. (6 600 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **385. (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 8-9, 20. April, S. 141.
FROHNE. — Die **sächsischen Schmalspurbahnen.** (7 500 Wörter, 6 Tafeln & Abb.)

1939 **625 .1 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 8-9, 20. April, S. 154.
FROHNE. — Die Grundlagen für den **vollspurigen Ausbau** der Schmalspurlinie Heidenau-Altenberg. (4 200 Wörter, 7 Tafeln & Abb.)

1939 **625 .13 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 8-9, 20. April, S. 159.
HILDEBRAND. — Die **Tunnelbauten** der neuen Voll-spurbahn Heidenau-Altenberg. (15 000 Wörter & Abb.)

1939 **625 .1 (.43)**
Organ für die Fortschritte des Eisenbahnw., Heft 10, 15. Mai, S. 185.
POTTHOFF. — **Bau und Betrieb beim vollspurigen Ausbau** der Linie Heidenau-Altenberg. (3 300 Wörter & Abb.)

1939 **625 .13 (.43)**
Organ für die Fortschritte des Eisenbahnw., Heft 10, 15. Mai, S. 190.
KOLLMAR. — Die **Brücken** der Linie Heidenau-Altenberg. (2 400 Wörter & Abb.)

1939 **725 .3 (.43)**

Organ für die Fortschritte des Eisenbahnw., Heft 10, 15. Mai, S. 194.

SPRÖGGEL. — **Hochbauten** der Linie Heidenau-Altenberg. (2 300 Wörter & Abb.)

1939 **621 .132.6 (.43)**

Organ für die Fortschritte des Eisenbahnw., Heft 10, 15. Mai, S. 197.

ZIEM (F. W.). — Die **Lokomotive** für Heidenau-Altenberg. (2 800 Wörter & Abb.)

1939 **625 .23 (.43)**

Organ für die Fortschritte des Eisenbahnw., Heft 10, 15. Mai, S. 201.

DÄHNICK. — Die **neuen Personenwagen** der umgebauten Müglitztalbahn. (2 600 Wörter & Abb.)

Verkehrstechnische Woche. (Berlin.)

1939 **656 .13 (.43)**

Verkehrstechnische Woche, Heft 16, 19. April, S. 185.

HOFFMANN (R.). — Die **Kraftverkehrsentwicklung** auf Reichsautobahnen, Reichs- und Landstrassen. (1 600 wörter.)

1939 **629 .11**

Verkehrstechnische Woche, Heft 17, 26. April, S. 193.

EVERLING (E.). — Anpassung des Kraftwagens an den **Strassenverkehr.** (4 300 Wörter & Abb.)

1939 **656 .212.9 (.43)**

Verkehrstechnische Woche, Heft 18, 3. Mai, S. 205.

FISCHER (W.). — Die Bedeutung der Organisation der **Arbeitsweise der Güterumladestellen** der Reichsbahn für die Höhe der Kosten der Stückgutumladung. (4 900 Wörter & Abb.)

1939 **385. (.43)**

Verkehrstechnische Woche, Heft 19, 10. Mai, S. 217.

MARSCHNER (H. J.). — **Eisenbahndurchzugsstrecken** an Grossdeutschlands Grenzen. (4 500 Wörter & Abb.)

1939 **656 .132**

Verkehrstechnische Woche, Heft 20, 17. Mai, S. 229.

JESSNITZER. — Mehr **Sicherheit im Omnibusverkehr.** (3 800 Wörter.)

1939 **662**

Verkehrstechnische Woche, Heft 20, 17. Mai, S. 234.

Technik des **Treibgasbetriebes.** (1 600 Wörter.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1939 **621 .392**

Zeitschr. des Ver. deutsch. Ing., Nr. 18, 6. Mai, S. 515.

AHLERT (W.). — **Thermit-Schweissung.** Verfahren, Durchführung und Beispiele. (3 500 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **656 .25**

Zeitschr. für das ges. Eisenb.-Sicherungs- und F... meldewesen, Nr. 5, 10. April, S. 49.

HAESSNER (A.) & FINOW (J.). — **Bahnhofsble... schaltung** mit Gruppenblockfeldern. (2 900 Wörter Abb.)

1939 **656 .212.5 & 656 ...**

Zeitschr. für das ges. Eisenb.-Sicherungs- und F... meldewesen, Nr. 5, 10. April, S. 54; Nr. 6, 1. ... S. 66.

SCHMITZ (W.). — **Gehsmelder** mit Altersstu... (8 000 Wörter & Abb.)

1939 **656 ...**

Zeitschr. für das ges. Eisenb.-Sicherungs- und F... meldewesen, Nr. 6, 1. Mai, S. 64.

GRADL (J.). — **Streckenblockung** vereinfachter ... art für eingleisige Bahnen. (700 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **656 .231 (.4...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 21. April, S. 331.

DÉRY (H.) & PÉCHY (J.). — Die Entwicklung ... **ungarischen Eisenbahntarifes.** (5 200 Wörter.)

1939 **385. (.4...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 21. April, S. 337.

Die Zukunft der **Niederländischen Eisenbah...** (3 200 Wörter.)

1939 **656 .222.1 (...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 21. April, S. 340.

Reisegeschwindigkeit auf deutschen Eisenbah... (600 Wörter.)

1939 **656 .225 (...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 27. April, S. 351.

BAUR (H.). — **Eisenbahnbeförderung leicht verd... licher Lebensmittel** in Nordamerika. (4 500 Wörte... Abb.)

1939 **656 ...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 27. April, S. 358.

FISCHL. — Zur **Tarifbildung im Personenverk...** (2 300 Wörter & Abb.)

1939 **656 .1 (.43) & 656 .2 (...**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. ... 4. Mai, S. 371.

OVERMANN. — **Reichsbahn** und **Reichsautob...** (6 500 Wörter.)

939 **656 .212.8 (.43)**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 18, 4. Mai, S. 378.
UNZ. — **Verbesserte Ladebrücke** und ihre Verwendung bei der Deutschen Reichsbahn. (1 400 Wörter & .)

939 **625 .1 (.494) & 624 .63 (.494)**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 19, 11. Mai, S. 387.
CATOS (A.). — Die Berner Linienverlegung der weizerischen Bundesbahnen, der Bau der grössten rgleisigen **Betonbrücke Europas.** (2300 Wörter & .)

939 **385. (09 (.47.42)**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 19, 11. Mai, S. 394.
IESCHKE (W.). — Die **Eisenbahnen Lettlands** in letzten fünf Jahren. (1 800 Wörter & Abb.)

939 **656. (.43)**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 19, 11. Mai, S. 397.
bkommen über eine **Verkehrsteilung** zwischen der enbahn und der Rheinschiffahrt. (1 800 Wörter.)

939 **385 .3 (.44)**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 20, 18. Mai, S. 405.
VERNEKKE. — **Eisenbahn und Staat** in Frankh. (2 300 Wörter.)

939 **625 .162 & 656 .254**
tung des Ver. mitteleurop. Eisenbahnverw., Nr. 20, 18. Mai, S. 408.
MAYER (R.). — Kraftfahrer vor **Eisenbahnübergän-**. (4 600 Wörter.)

In English.

Engineer. (London.)

939 **621 .31**
gineer, No. 4345, April 21, p. 492.
TURSCHEIM (C. H.). — A new high-speed 132-kV **uit breaker.** (2 100 words, tables & fig.)

939 **62. (01 & 669 .1**
gineer, No. 4345, April 21, p. 496.
atigue in riveted and welded plates. (Paper read ore the Institution of Naval Architects.) (2 300 ds.)

939 **621 .31**
gineer, No. 4345, April 21, p. 499.
lameproof air-break switchgear. (1 200 words &)

939 **624 .62 (.42)**
gineer, No. 4345, April 21, p. 507.
he new Wandsworth bridge (London). (1 700 words fig.)

1939 **625 .42 (.42)**
Engineer, No. 4345, April 21, S. 508.
Rebuilding Mile End station. (700 words & fig.)

1939 **623. (.42)**
Engineer, No. 4345, April 21, p. 510.
An air raid shelter scheme. (1 000 words & fig.)

1939 **625 .1 (06 (.73)**
Engineer, No. 4345, April 21, p. 511.
American Railway Engineer's Convention (March 1939). (2 800 words.)

1939 **621 .13 (.42 + .73) & 656 .222.1 (.73)**
Engineer, No. 4346, April 28, p. 522.
LIVESAY (E. H.). — North American and English **locomotive experiences.** (7 500 words & fig.)

1939 **621 .132.5 (.73) & 656 .222.1 (.73)**
Engineer, No. 4347, May 5, p. 552.
COBLE (H.). — American **high-powered 2-10-4 type freight locomotive** performance data. (4 500 words & fig.)

1939 **62. (01 & 721 .1**
Engineer, No. 4347, May 5, p. 555.
von TERZAGHI (K.). — **Soil mechanics** : a new chapter in engineering science. (4 000 words.)

1939 **621 .87 (.54) & 625 .13 (.54)**
Engineer, No. 4347, May 5, p. 566.
Creeper cranes for Howrah bridge. (3 500 words & fig.)

1939 **669 .1 (06 (.42)**
Engineer, No. 4348, May 12, p. 585.
The Iron and Steel Institute. (70th annual general meeting.) Heterogeneity of steel ingots. (7 000 words & fig.)

1939 **624. (.496 + .56)**
Engineer, No. 4348, May 12, p. 597.
Bridge standardisation in Turkey. (500 words & fig.)

1939 **721 .7**
Engineer, No. 4348, May 12, p. 600.
Pneumatic cores for concrete. (500 words & fig.)

1939 **62. (01 & 669**
Engineer, No. 4348, May 12, p. 601.
BARKER (F. G.). — The **spectograph** and the quantitative **analysis of metals.** (5 600 words & fig.)

1939 **62. (01 & 621 .116**
The Metallurgist, p. 17, supplt. to the Engineer, April 28.
Caustic embrittlement of boiler plate. (1 000 words.)

1939 **669 .1**
The Metallurgist, p. 18, supplt. to the Engineer, April 28.
The influence of rate of cooling on the **transformations in steel.** (1 800 words & fig.)

1939 **62. (01 & 669**
The Metallurgist, p. 20, supplt. to the Engineer, April 28.
The **improvement of metal surfaces by diffusion.** (2 300 words.)

1939 **62. (01**
The Metallurgist, p. 29, supplt. to the Engineer, April 28.
van SOMEREN (E.). — Recent developments of **spectographic analysis.** (2 400 words.)

Engineering. (London.)

1939 **621 .43 & 662**
Engineering, No. 3823, April 21, p. 473.
Coal as fuel for internal-combustion engines. (4 000 words.)

1939 **62. (01 & 669 .1**
Engineering, No. 3824, April 28, p. 513.
HAIGH (B. P.) and ROBERTSON (T. S.). — **Fatigue in structural steel plates** with riveted or welded joints. (6 300 words & fig.)

1939 **62. (01 & 536**
Engineering, No. 3824, April 28, p. 517.
Temperature-indicating paints. (1 000 words.)

1939 **625 .213 (.73)**
Engineering, No. 3824, April 28, p. 517.
Pendulum-type railway passenger car. (300 words.)

1939 **625 .7**
Engineering, No. 3825, May 5, p. 526.
The **formation of contoured sheet metals by stretching.** (1 600 words & fig.)

1939 **621 .115 & 621 .165**
Engineering, No. 3825, May 5, p. 533.
Condensate in expanding steam. (1 500 words.)

1939 **62. (01**
Engineering, No. 3825, May 5, p. 542.
MARDLES (E. W. J.). — The **protection of metal surfaces** against marine corrosion and fouling. (5 800 words & fig.)

1939 **669 .1**
Engineering, No. 3825, May 5, p. 544.
The **heterogeneity of steel ingots.** (2 100 words.)

1939 **621 .436**
Engineering, No. 3826, May 12, p. 552.
RIFFKIN (J.). — The **influence of injection-timing on the delay period** in a compression-ignition engine. (4 300 words & fig.)

1939 **669 .1 (06 (.42)**
Engineering, No. 3826, May 12, p. 554.
The Iron and Steel Institute. (Seventieth annual general meeting.) Heterogeneity of steel ingots. Fluorspar in basic open-hearth practice. (7 500 words.)

1939 **621**
Engineering, No. 3826, May 12, p. 556.
Silencers for road drills and rock drills. (800 wor

1939 **621 .4**
Engineering, No. 3826, May 12, p. 558.
Torsional-vibration damper. (2 500 words & fig.)

1939 **621 .33 & 625**
Engineering, No. 3826, May 12, p. 564.
Some incidentals to railway electrification. (2 words.)

1939 **721**
Engineering, No. 3826, May 12, p. 566.
von TERZAGHI (K.). — **Soil mechanics.** (5 800 wo & fig.)

1939 **625**
Engineering, No. 3826, May 12, p. 569.
Constructional methods on German motor ro (1 600 words.)

1939 **721**
Engineering, No. 3826, May 12, p. 571.
Pneumatic cores for concrete floors and walls. (1 words.)

1939 **62. (01 &**
Engineering, No. 3826, May 12, p. 572.
BARKER (F. G.). — **Some applications of the s tograph** to the quantitative analysis of ferrous non-ferrous metals. (4 100 words & fig.)

1939 **62. (01 & 669**
Engineering, No. 3826, May 12, p. 574.
SYKES (C.) and JONES (F. W.). — Discontinui in the **resistance-temperature curves of commercia pure iron and steel.** (3 200 words & fig.)

Engineering News-Record. (New York.)

1939 **625 .141 (.**
Engineering News Record, April 13, p. 56.
Grouted ballast slabs for track support. (1 500 w & fig.)

1939 **625 .3 (.**
Engineering News Record, April 13, p. 60.
Light narrow-gage railway serves big construc job. (600 words & fig.)

Journal, Institute of Transport. (London.)

1939 **385. (08 & 388. (.**
Journal, Institute of Transport, No. 7, May, p. 274
PICK (Fr.). — **The London Passenger Trans Board, 1933-38.** (12 000 words.)

1939 **656**
Journal, Institute of Transport, No. 7, May, p. 288.
NICHOLL (J. S.). — The **operation and control road haulage undertaking.** (8 000 words.)

939 656 .2
rnal, Institute of Transport, No. 7, May, p. 297.
TAMP OF SHORTLANDS (Lord). — Comfort in vel by rail. (5 000 words.)

Journal and Proceedings, Institution of Mechanical Engineers. (London.)

939 621 .43 & 621 .8
rnal, Institution of Mechanical Engineers, May, p. 86.
nternal-combustion engine transmissions for small ft. (4 400 words.)

939 621 .438
ceedings, Institution of Mechanical Engineers, May, p. 197.
IEYER (Ad.). — The combustion gas turbine : its ory, development, and prospects. (15 000 words &)

939 62. (01
ceedings, Institution of Mechanical Engineers, May, p. 223.
OMLINSON (G. A.), THORPE (P. L.) and GOUGH J.). — An investigation of the fretting corrosion closely fitting surfaces. (26 000 words & fig.)

939 621 .116 & 621 .133.7
ceedings, Institution of Mechanical Engineers, May, p. 251.
IAMER (P.). — Some principles of modern methods water treatment for steam raising. (20 000 words &)

939 62. (01 & 669 .1
ceedings, Institution of Mechanical Engineers, May, p. 271.
Steels for high-temperature service. (13 400 words &)

London & North Eastern Railway Magazine. (London.)

1939 621 .134.1 & 669 .1
ndon & North Eastern Railway Magazine, May, p. 256.
TRASK (E. D.). — Nickel chrome alloy steel coupling d connecting rods. (1 100 words & fig.)

1939 625 .13 (.42)
ndon & North Eastern Railway Magazine, May, p. 261.
NGLIS (R. J. M.). — Reconstruction of Calder dge, between Doncaster and Wakefield. (1 200 words fig.)

1939 621 .33 (.42) & 625 .111 (.42)
ndon & North Eastern Railway Magazine, May, p. 270.
Equipment of the « Shenfield lines » for electric rking. (1 800 words & fig.)

Mechanical Engineering. (New York.)

1939 621 .7 & 621 .9
Mechanical Engineering, May, p. 349.
JUDKINS (M. F.). — Metal cutting. (7 400 words & fig.)

1939 621 .436 & 621 .89
Mechanical Engineering, May, p. 356.
McDONALD (A. T.). — Some factors in the lubrication of high-speed diesel engines. (2 000 words & fig.)

1939 621 .392
Mechanical Engineering, May, p. 370.
TAYLOR (E. H.). — New developments in welding fittings. (1 700 words & fig.)

Modern Transport. (London.)

1939 621 .33 (.45)
Modern Transport, No. 1049, April 22, p. 3.
VELANI (L.). — Railway electrification in Italy. System exemplifying national policy. (2 400 words.)

1939 629 .113.5 (.42) & 629 .113.62 (.42)
Modern Transport, No. 1049, April 22, p. 5.
New rolling stock for Brighton Corporation. Notable buses and trolleybuses. (2 500 words & fig.)

1939 621 .132.3 (.41)
Modern Transport, No 1049, April 22, p. 7.
Express locomotives for Dublin-Cork service. (700 words & fig.)

1939 629 .113.5 (.42)
Modern Transport, No. 1049, April 22, p. 12.
Progress in road vehicle industry. New system of speed governing — Special-type Fordson on tour — Another Chevrolet model. (1 300 words & fig.)

1939 659. (.42)
Modern Transport, No. 1049, April 22, p. 13.
« Meet the Sun ». An L. N. E. R. advertising campaign. (1 000 words & fig.)

1939 623. (.42)
Modern Transport, No. 1049, April 22, p. 14 and No. 1050, April 29, p. 18.
A. R. P. shelters for factories. (2 000 words.)

1939 629 .113.5 (.42)
Modern Transport, No. 1049, April 22, p. 15.
New range of Commer chassis. Six-cylinder semi-forward control. (1 900 words & fig.)

1939 623. (.42)
Modern Transport, No. 1050, April 29, p. 3.
VANE MORLAND (W.). — Operation of urban transport in emergency. Methods of effecting a rapid changeover to war requirements. (2 500 words.)

1939 **621 .33 (.42)**
Modern Transport, No. 1050, April 29, p. 4.
Electric traction on English Railways. **Modern equipment and rolling stock.** A review of recent developments. (2 000 words & fig.)

1939 **621 .431.72 (.82)**
Modern Transport, No. 1050, April 29, p. 5.
Oil-engined trains for Argentina. Metre-gauge units for State Railways. (1 900 words & fig.)

1939 **656 .132 (.42)**
Modern Transport, No. 1050, April 29, p. 7.
Carriage of children by bus and coach. **Age limit for free transport.** (2 000 words.)

1939 **629 .113.5 (.42)**
Modern Transport, No. 1050, April 29, p. 12 and No. 1051, May 6, p. 15.
Commercial vehicle road tests : new series. (3 800 words & fig.)

1939 **629 .113.5 (.42)**
Modern Transport, No. 1050, April 29, p. 13.
Bus designs for special purposes. (1 900 words & fig.)

1939 **385. (091 (.51)**
Modern Transport, No. 1050, April 29, p. 15.
WALKER (R. D.). — **Chinese railway has a record year.** (1 500 words & fig.)

1939 **621 .13 (.42 + .73) & 625 .232 (.42 + .73)**
Modern Transport, No. 1051, May 6, p. 3.
VAN SANT (R. M.). — **America welcomes the Coronation Scot.** (4 000 words & fig.)

1939 **629 .113.5 (.42)**
Modern Transport, No. 1051, May 6, p. 5.
Buses for trams at Bath. (1 500 words & fig.)

1939 **625 .2 & 669**
Modern Transport, No. 1051, May 6, p. 7.
HART (D. B.). — **Use of aluminium for transport purposes.** (1 600 words & fig.)

1939 **656 .23 & 659**
Modern Transport, No. 1051, May 6, p. 9.
DAVIES (A.). — **Salesmanship in railway administration.** (1 900 words.)

1939 **656 .7 (.71)**
Modern Transport, No. 1051, May 6, p. 14.
Trans-Canada air lines. Development of routes. (1 400 words & fig.)

1939 **626. (.493)**
Modern Transport, No. 1051, May 6, p. 17.
Completion of Albert-Canal. **An important Belgian waterway.** Economic and strategic value. (1 200 words & fig.)

1939 **629 .113.65 (.42)**
Modern Transport, No. 1051, May 6, p. 19.
Road vehicle industry. (1 200 words & fig.)

Proceedings, American Society of Civil Engineers. (New York.)

1939 **625**
Proceedings, American Society of Civil Engineers, A
p. 619.
MINDLIN (R. D.). — **Stress distribution arou tunnel.** (7 400 words, tables & fig.)

Railway Age. (New York.)

1939 **625 .2 (02 & 65**
Railway Age, No. 15, April 15, p. 647.
Streamlined trains as traffic builders. (900 wo

1939 **621 .139 (.73) & 625 .27 (**
Railway Age, No. 15, April 15, p. 649.
Railway inventories down almost 70 million do (2 300 words, tables & fig.)

1939 **691 &**
Railway Age, No. 15, April 15, p. 656.
Baltimore & Ohio makes extensive use of **insul in buildings.** (2 100 words & fig.)

1939 **625 .24 (0**
Railway Age, No. 15, April 15, p. 660.
PATTERSON (W. J.). — **How car conditions a safety.** (3 700 words.)

1939 **385. (064**
Railway Age, No. 16, April 22, p. 688.
Railroads at Golden Gate Fair. — Scenic and re tional marvels of the West, shown in dioramas animated displays. (2 600 words & fig.)

1939 **625 .111 (.73) & 625 .13**
Railway Age, No. 16, April 22, p. 691.
Architectural details feature grade separation a ledo. (3 200 words & fig.)

1939 **621 .131.1 & 656 .**
Railway Age, No. 16, April 22, p. 699.
What horsepower for 1 000-ton passenger tra (2 700 words & fig.)

1939 **656 .212 (.73) & 656 .225**
Railway Age, No. 16, April 22, p. 704.
How the Louisville & Nashville handles merchan Fast trains and elimination of terminal delays by truck feature improved service. (1 500 words & f

---

1939 **621 .431.72 (.73) & 625 .232**
Railway Age, No. 17, April 29, p. 727.
Chicago, Burlington & Quincy installs **ninth Ze** (5 500 words & fig.)

1939 **656**
Railway Age, No. 17, April 29, p. 740.
The Interstate Commerce Commission permit **moval of derails.** (600 words.)

39 **656 .212.6 (.73) & 656 .213 (.73)**
way Age, No. 17, April 29, p. 741.
le-wall loaders speed operations at coal pier. (3 700
s & fig.)

Railway Engineering and Maintenance. (Chicago.)

39 **625 .144.4 (.73) & 625 .173 (.73)**
way Engineering and Maintenance, May, p. 290.
nnsylvania lays rail under traffic — without slow rs. (2 500 words & fig.)

39 **625 .172 (.73)**
way Engineering and Maintenance, May, p. 294.
LLIS (W. H.). — **How about weeds ?** (2 000 words g.)

39 **691. (.73) & 694. (.73)**
way Engineering and Maintenance, May, p. 298.
ETRI (F.). — What has been learned from **treated er** on the Baltimore and Ohio. (1 600 words & fig.)

39 **625 .144 & 625 .172**
way Engineering and Maintenance, May, p. 300.
ARROW (F. T.). — **Practical measures to prevent spots.** (2 000 words.)

39 **625 .154 (.73)**
way Engineering and Maintenance, May, p. 302.
AGGART (C. R.). — How **maintain turntables.** 00 words & fig.)

39 **625 .144.4 (.73)**
way Engineering and Maintenance, May, p. 304.
ETERSON (A. H.). — Distributing **ties for renewals ards.** (700 words.)

39 **725 .33 (.73)**
way Engineering and Maintenance, May, p. 305.
nta Fe improves **water supply** at Shopton, Fowa. 00 words & fig.)

39 **656 .227 (.73)**
way Engineering and Maintenance, May, p. 307.
locking flange-wheel-mounted equipment in cars. words & fig.)

Railway Gazette. (London.)

939 **385 .1**
way Gazette, No. 16, April 21, p. 640.
ailways, roads and the public. (1 400 words.)

939 **621 .13 (0 & 656 .222.1**
lway Gazette, No. 16, April 21, p. 648.
[ONKSWELL (Lord). — **Locomotive power and effi- cy.** (3 600 words.)

939 **656 .25 (0**
lway Gazette, No. 16, April 21, p. 651.
afe signal circuits. (1 100 words.)

1939 **385. (091 (.81)**
Railway Gazette, No. 16, April 21, p. 652.
Rio Grande Do Sul Railway, Brazil, — with special reference to its forming an integral part of the through rail route between Rio and Porto Alegre, 1 655 miles in length. (1 000 words & fig.)

1939 **621 .132.3 (.493) & 656 .222.1 (.493)**
Railway Gazette, No. 16, April 21, p. 654.
New Belgian high-speed locomotives. — Inside-cylinder Atlantic type for the Ostend-Brussels one-hour trains to be introduced on May 15. (400 words & fig.)

1939 **625 .175 (.82)**
Railway Gazette, No. 16, April 21, p. 655.
WILLIAMS (R. F.). — The operation of **motor gang trolleys.** (1 000 words & fig.)

1939 **725 .31 (.42)**
Railway Gazette, No. 16, April 21, p. 656.
Improvements at Liverpool Street in 1938. — Renovations and removal of obstructions from circulating areas at this busy L. N. E. R. terminus. (600 words & fig.)

1939 **621 .132.3 (.946) & 625 .232 (.946)**
Railway Gazette, No. 16, April 21, p. 659.
Streamlined trains in Tasmania. (900 words.)

1939 **621 .9 (.42)**
Railway Gazette, No. 16, April 21, p. 660.
Machine tools and operations at St. Rollox Works, L. M. S. R. (800 words & fig.)

1939 **625 .42 (.42)**
Railway Gazette, No. 16, April 21, p. 665.
Rebuilding Mile End Station, L. P. T. B. (500 words & fig.)

1939 **659. (.42)**
Railway Gazette, No. 16, April 21, p. 668.
Effective **railway propaganda.** (900 words.)

1939 **621 .13 (0 (.45)**
Railway Gazette, No. 17, April 28, p. 687.
Towards self-sufficiency on Italian steam railways. (800 words.)

1939 **621 .133.8 (.42)**
Railway Gazette, No. 17, April 28, p. 688.
A new speed indicator and recorder for locomotives. (200 words & fig.)

1939 **621 .39 (.44) & 656 .253 (.44)**
Railway Gazette, No. 17, April 28, p. 689.
Electric lighting for mechanical signals. (1 300 words & fig.)

1939 **621 .132.8 (.45)**
Railway Gazette, No. 17, April 28, p. 690.
A Franco locomotive in Italy. (400 words & fig.)

1939 **625 .1 (.493)**
Railway Gazette, No. 17, April 28, p. 691.
New works at Bruges and Ostend. (1 000 words & fig.)

1939 **621 .9 & 665 .882**
Railway Gazette, No. 17, April 28, p. 694.
A new multi-burner cutting machine. (500 words & fig.)

1939 **625 .235 (.44)**
Railway Gazette, No. 17, April 28, p. 695.
MORRIS (O. J.). — Painting of rolling stock by contract on the French Railways. (900 words & fig.)

1939 **625 .235 (.73)**
Railway Gazette, No. 17. April 28, p. 697.
Light polarising glass for train windows. — Light-conditioning as well as air-conditioning is the latest refinement of American travel. (500 words & fig.)

1939 **621 .132.3 (.73)**
Railway Gazette, No. 17, April 28, p. 698.
Pennsylvania high-speed passenger engine. (800 words & fig.)

1939 **625 .13 (.82)**
Railway Gazette, No. 17, April 28, p. 701.
Doubling the length of a bridge in Argentina. (500 words & fig.)

1939 **656 .26 (.42)**
Railway Gazette, No. 17, April 28, p. 706.
Ancillary businesses of the British Railways. I — Docks, harbours and wharves. (1 000 words.)

1939 **656 .222.1 (.45)**
Railway Gazette, No. 17, April 28, p. 707.
The Italian rail speed revolution. (800 words.)

1939 **385. (091 (.43)**
Railway Gazette, No. 18, May 5, p. 727.
Route mileage of the German State Railway. (700 words & tables.)

1939 **385. (064 (.73)**
Railway Gazette, No. 18, April 28, p. 728.
Railways at the New York world's fair. (1 700 words & fig.)

1939 **656 .136**
Railway Gazette, No. 18, May 5, p. 731.
Some trolleybus figures. (300 words.)

1939 **656. (.42)**
Railway Gazette. No. 18, May 5, p. 733.
Brighton, Hove & District transport. (2 400 words & 1 map.)

1939 **656 .135 (.42) & 656 .261 (.42)**
Railway Gazette, No. 18, May 5, p. 736.
Road transport as a railway ancillary business. (1 300 words.)

1939 **725 .45 (**
Railway Gazette, No. 18, May 5, p. 738.
Modern coachbuilding practice. (600 words & fig.

1939 **656. (**
Railway Gazette, No. 18, May 5, p. 741.
MARR (J. F.). — Cape to Cairo overland. (2
words & fig.)

1939 **621 .133.7 (**
Railway Gazette, No. 18, May 5, p. 745.
Automatic locomotive water scoop control.
words & fig.)

1939 **656 .23 &**
Railway Gazette, No. 18, May 5, p. 750.
Salemanship and the railway. (2 000 words)

1939 **621 .1**
Railway Gazette, No. 19, May 12, p. 777.
Locomotive wheel centre design. (900 words &

1939 **656 .256.3 (**
Railway Gazette, No. 19, May, 12, p. 779.
Automatic signalling in France. (600 words.)

1939 **621 .132.7 (**
Railway Gazette, No. 19, May 12, p. 780.
Modern shunting locomotives in America. (600 w
& fig.)

1939 **385. (091 (**
Railway Gazette, No. 19, May 12, p. 782.
MORRIS (O. J.). — Photography and the engi
(1 200 words & fig.)

1939 **625 .7 (**
Railway Gazette, No. 19, May 12, p. 784.
The new Ebbw Vale steel sheet works. (700 word
fig.)

1939 **621**
Electric Railway Traction, p. 40, supplt. to the Rail
Gazette, April 28.
CROFT (E. H.). — Torque and drawbar react
(2 200 words & fig.)

1939 **621 .39 (.485) & 624 .8 (.4**
Electric Railway Traction, p. 42, supplt. to the Rail
Gazette, April 28.
Lift bridge operation on electrified lines. (800 w
& fig.)

1939 **621 .33 (**
Electric Railway Traction, p. 44, supplt. to the Rail
Gazette, April 28.
ENGLAND (W. J.). — Some incidentals of a rail
electrification scheme. (1 900 words & fig.)

1939 **621 .335 (**
Electric Railway Traction, p. 46, supplt. to the Rail
Gazette. April 28.
High-power German express electric locomotive.
words & fig.)

1939 **621 .431.72 (.42)**
sel Railway Traction, p. 70, supplt. to the Railway Gazette, May 12.
LEAVER (C. F.). — **The development of the A. E. C. car.** (3 700 words & fig.)

1939 **621 .431.72 (.492)**
sel Railway Traction, p. 74, supplt. to the Railway Gazette, May 12.
Diesel train operation in Holland. (1 500 words & fig.)

1939 **621 .43 & 72. (.494)**
sel Railway Traction, p. 78, supplt. to the Railway Gazette, May 12.
p-to-date Swiss diesel locomotives. (2 800 words &

1939 **621 .431.72 (.942)**
sel Railway Traction, p. 81, supplt. to the Railway Gazette, May 12.
ong-distance railcars in South Australia. (700 words ig.)

1939 **621 .431.72 (093**
sel Railway Traction, p. 82, supplt. to the Railway Gazette, May 12.
UCHI (A. J.). — **Early days in diesel development.** 300 words & fig.)

1939 **621 .431.72 (.44)**
sel Railway Traction, p. 84, supplt. to the Railway Gazette, May 12.
New 600-b.h.p. railcars in France. (300 words.)

Railway Magazine. (London.)

1939 **656 .222.1 (.42)**
lway Magazine, No. 503, May, p. 323.
LLEN (C. J.). — **British locomotive practice and formance.** (4 000 words, tables & fig.)

1939 **656 .222.1 (.73)**
lway Magazine, No. 503, May, p. 354.
Modern American locomotive performance. — III. **avy grade and high-speed runs.** (3 400 words, tables ig.)

Transit Journal. (New York.)

1939 **625 .62 (.42) & 629 .113 (.42)**
nsit Journal, April, p. 118.
ACKSON (W.). — **Manchester adopts 100 per cent d transport.** Fifth largest city in Great Britain ns to **replace trams by diesels and trolley buses.** 700 words & fig.)

1939 **388. (.73) & 629 .132 (.73)**
nsit Journal, April, p. 120.
BAKER (A. W.). — Will the extension pay? Survey methods used to **determine need for bus line exten-ns or new routes.** (2 300 words & fig.)

1939 **629 .113.5 (.73)**
Transit Journal, April, p. 122.
New Macks — a 40 and a 25. Automatic clutch, two new models, new line of engines and redesigned under-frame feature recent developments. (900 words & fig.)

1939 **629 .113.62 (.73)**
Transit Journal, April, p. 124.
Abandoned as a mistake in 1931, **the trolley bus has returned to Baltimore.** (1 900 words & fig.)

1939 **698**
Transit Journal, April, p. 126.
Vehicle painting. (2 200 words.)

In Italian.

La tecnica professionale. (Firenze.)

1939 **625 .28 (.45)**
La tecnica professionale, màggio, p. 97.
Caratteristiche dell'esercizio con **trazione a vapore,** con **trazione elettrica** e con **automotrici a carburanti** sulla rete dello Stato. (2 700 parole & fig.)

1939 **62. (01 & 621 .392**
La tecnica professionale, maggio, p. 109.
Difetti e controlli delle **saldature.** (1 700 parole.)

L'Ingegnere. (Roma.)

1939 **62. (01 & 624**
L'Ingegnere, 15 aprile, p. 301.
COLONNETTI (G.). — Risoluzione grafica generale del problema della **flessione in regime elasto plastico.** (1 500 parole & fig.)

1939 **665 .882**
L'Ingegnere, 15 aprile, p. 304.
GUIDI (G.). — La **saldatura autogena** degli acciai inossidabili. (2 800 parole & fig.)

1939 **624 .63 (.63)**
L'Ingegnere, 15 aprile, p. 315; 15 maggio, p. 429.
SASSI (G.). — La realizzazione pratica degli elementi di **isostaticità nelle strutture dei ponti** quale fu ottenuta in Etiopia nei maggiori ponti in cemento armato. (5 000 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Roma.)

1939 **62. (01 & 624 .2**
Rivista tecnica delle ferrovie ital., 15 aprile, p. 203.
RIGHI (R.). — La **prova delle costruzioni** mediante macchine vibranti. **Fondamenti teorici e considerazioni** pratiche di impiego. (16 000 parole & fig.)

1939 **625 .5**
Rivista tecnica delle ferrovie ital., 15 aprile, p. 262.
d'ARMINI (P.). — I **consumi delle funi** portanti delle funivie. (6 500 parole & fig.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 **656**

De Ingenieur, n° 16, 21 April, p. V. 15.

HONDELINK (R.). — **Verkeerseconomische ervaringen** in overzeesche landen. (11 000 woorden.)

1939 **669 & 691**

De Ingenieur, n° 16. 21 April, p. Mk. 11.

COHEN (E.) & COHEN-DE MEESTER (W. A. T.). — Akute metaalziekten en het **corrosie-probleem.** (7 800 woorden & fig.)

1939 **691 & 624 .63**

De Ingenieur, n° 18, 5 Mei, p. Bt. 37.

RIEUWERTS DE VRIES. — **Bruggen in gewapend beton** met electrisch gelaschte hoofdwapening. (4 800 woorden, 8 tabellen & fig.)

1939 **624 .62 (.492)**

De Ingenieur, n° 19, 12 Mei, p. B. 59.

HARMSEN (W. J. H.). — **Brug** over de Noord te Hendrik-Ido-Ambacht. I. — **Situatie en hoofdafmetingen.** (1 000 woorden & fig.)

1939 **624 .62 (.492)**

De Ingenieur, n° 19. 12 Mei, p. B. 60.

BOONSTRA (G. C.). — **Brug** over de Noord te Hendrik-Ido-Ambacht. II. — **Onderbouw rivieroverbrugging en viaducten in toegangswegen.** (3 600 woorden & fig.)

1939 **624 .62 (.492)**

De Ingenieur, n° 19, Mei, p. B. 67.

ROGGEVEEN (A.). — **Brug** over de Noord te Hendrik-Ido-Ambacht. III. — **Bovenbouw rivieroverbrugging.** (7 200 woorden & fig.)

1939 **624 .8 (.492)**

De Ingenieur, n° 20, 19 Mei, p. B. 81.

ROGGEVEEN (A.). — **Brug** voor gewoon verkeer over de Oude Maas te Dordrecht. (3 900 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

1939 **385. (09 (.43.59)**

Spoor- en Tramwegen, n° 9, 29 April, p. 198.

KONING (K. D.). — Een en ander over het **spoorwegwezen** in het Groot Hertogdom Luxemburg. (2 200 woorden & fig.)

1939 **656 .212.5**

Spoor- en Tramwegen, n° 9, 29 April, p. 201.

BREUKELMAN (W. A.). — Het bepalen van een **bedrijfsplan voor rangeerstations.** (3 100 woorden & fig.)

1939 **625 .162 (.73) & 656 .254 (.73)**

Spoor- en Tramwegen, n° 10, 13 Mei, p. 221.

VERSTEGEN (J. H.). — Doeltreffendheid van **overwegbeveiliging.** (1 800 woorden & fig.)

1939 **621 .43 (**

Spoor- en Tramwegen, n° 10, 13 Mei, p. 224.

Gebruik en onderhoud van motorvoertuigen bij de (900 woorden.)

1939 **625 .2**

Spoor- en Tramwegen, n° 10, 13 Mei, p. 225.

EWEG (C. C.). — Eenige beschouwingen over **personenmaterieel.** (900 woorden.)

1939 **385 .517 (.**

Spoor- en Tramwegen, n° 10, 13 Mei, p. 227.

SCHWARTZ (A.). — Tien jaar « **Steunfonds** spoorwegpersoneel ». (3 400 woorden.)

1939 **624 (.**

Spoor- en Tramwegen, n° 10, 13 Mai, p. 231.

BARDET (D. M.). — De **overbrugging** van de naeusstraat te Amsterdam. (900 woorden & fig.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa.)

1939 **656 .235 (.438) = 91**

Inżynier Kolejowy, may, p. 189.

KRZYŻANOWSKI (A.). — **Goods rates** of the P State Railways. (600 words.)

1939 **385 .52 (.438) = 91**

Inżynier Kolejowy, may, p. 202.

CYWINSKI (B.). — **Staff expenditure** on the P State Railways. — (15 000 words & tables.)

1939 **625 .2 (.438) = 91**

Inżynier Kolejowy, may, p. 219.

SWIESCIAKOWSKI. — **Rolling stock renewal** the Polish State Railways. (6 800 words.)

In Portuguese.

Gazeta dos caminhos de ferro. (Lisboa.)

1939 **385.**

Gazeta dos Caminhos de Ferro, n° 1233, 1 de p. 233.

Vias férreas e política ferroviária na Turquia. palavras.)

1939 **656 (.**

Gazeta dos Caminhos de Ferro, n° 1233, 1 de p. 235.

FERNANDO DE SOUZA. — O problema nac ferroviário e a **coordenação dos transportes.** (1 800 vras.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(AUGUST 1939)

016. 385. 02]

I. — BOOKS.

In French.

39 385. (09 (.44)
ONET (H.).
s grands réseaux d'intérêt général depuis la guerre.
ociété Nationale des Chemins de fer français.
ris, Chambre de Commerce de Paris. 1 volume, 351
s. (Prix : 40 fr. français.)

39 621 .431
ARTHE (A.).
problème de l'injection d'un combustible liquide.
ris (7e), Office National des Combustibles liquides,
oulevard Montparnasse. 1 volume, 174 pages et
igures. (Prix : 30 fr. français.)

39 662
technique des industries du pétrole (1939).
ris (8e), Science et Industrie, 29, rue de Berri. 1 vo-
(25 × 32 cm.), 192 pages. (Prix : 40 fr. français.)

39 621. (02
LLOT (L.).
manuel du mécanicien. (Les métaux, traitement
nique, travail aux machines-outils, outils de me-
et de vérification.)
ris, Dunod, 92, rue Bonaparte. 1 volume, 199 pages
7 figures. (Prix : 23 fr. français.)

39 691
CHEEFF (Th.).
nuel du béton vibré.
ris (5e), Léon Eyrolles, 61, boulevard St-Germain.
ume, 349 pages et 150 figures. (Prix : 90 fr. franç.)

38 385. (08 (.493)
pports présentés par le Conseil d'administration et
llège des Commissaires de la Société Nationale des
ins de fer belges.
uxelles, S. N. C. F. B., rue de Louvain. 1 volume,
ges.

39 385. (08 (.493)
ciété Nationale des Chemins de fer Vicinaux de
que. — Rapports présentés par le Conseil d'Admi-
ation et par le Comité de surveillance. Année 1938.
uxelles, S. N. C. F. V. de Belgique, rue de la Science.
lume, 159 pages et carte.

1939 62. (01
TIMOSHENKO (S.).
Théorie des vibrations à l'usage des ingénieurs.
Paris et Liége, Ch. Béranger. 1 volume, 482 pages et 229 figures. (Prix : 250 fr. français.)

In German.

1939 625 .113
GYSIN (J.) und MOLL (E.).
Tafeln zum Abstecken von Kreiskurven und Übergangsbogen in neuer Teilung (400 Grad).
Liestal (Schweiz), Lüdin & Cº A.-G. (Preis : 5.80 R.M.)

1939 624 .2
KAPFERER (W.).
Tabellen der Maximalquerkräfte und Maximalmomente durchlaufender Träger mit 2, 3 und 4 Öffnungen verschiedener Weite bei gleichmässig verteilter Belastung.
Berlin, Wilhelm Ernst & Sohn. 1 Band, 131 Seiten, 18 Textabbildungen. (Preis : 6 R.M.)

1939 656 .254 (.43)
KRAUSKOPF
Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn.
Berlin, Otto Elsner Verlagsgesellschaft. 1 Band. 165 Seiten mit 283 Abbildungen. (Preis : 6.40 R.M.)

1939 621 .82
Werkstoffe für Gleitlager. Herausgegeben von Dr. Ing. Kühnel.
Berlin, Julius Springer. 1 Band, 427 Seiten, 324 Abbildungen. (Preis : 48 R.M.)

1938 62. (01
ZIMMERMANN (E.).
Werkstoffkunde und Werkstoffprüfung.
Leipzig, Dr. Max Jänecke Verlagsbuchhandlung. 1 Band, 174 Seiten mit 153 Abbildungen. (Preis : 3.60 R.M.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 509).

In English.

1939 .656 .25 (06 (.73)

ASSOCIATION OF AMERICAN RAILROADS, SIGNAL SECTION. Minutes, forty-fifth annual meeting, Chicago, Ill., March 13 and 14, 1939.

New York : Signal Section, Association of American Railroads, 30 Vesey street. 111 pages. (No price stated.)

1939 385. (09 (.71)

A statutory history of the steam and electric railways of Canada, 1836-1937. Compiled by ROBERT DORMAN.

Ottawa : Department of Transport. 10 in. × 6 3/4 in. × 1 1/2 in. 765 pp. (Price : $ 3.00 net.)

1939 385. (091

BARRIE (D. S.).

The Taff Vale Railway.

Sidcup, Kent : The Oakwood Press, 19, The Drive. (Price : 2 s. 6 d. net.)

1939 62. (01

BURNS (R. M.) and SCHUH (Ph. D.).

Protective coatings for metals.

London : Chapman and Hall, Ltd., 11, Henrietta Str., W. C. 2. (Price : 32 s. 6 d. net.)

1939 656 .256 (.42)

CARR (T. H.).

Train signalling.

Reprinted from L. M. S. Magazine. 24 pages, 7 1/4 in. × 9 1/2 in., 2 diagrams, list of « Is line clear ? » bell signals and head code chart. (Price : 2 d. net.)

1939 62. (01

CORMACK (J. A.) and ANDREW (E. R.).

Properties and strength of materials.

London : Macmillan and Co., Ltd., St. Martins Street, W. C. 2. (Price : 8 s. 6 d. net.)

1939 621 .436

DEGLER (H. E.).

Diesel engines, theory and design.

Chicago : The American Technical Society. 270 pages. 5 1/2 in. × 8 1/2 in. Illustrated. (Price : $ 2.50.)

1939 621 .13 (.42)

Locomotive drawings. By F. C. Hambleton, L. Ward, J. N. Maskelyne, J. C. Cosgrave, G. F. Bird, R. C. Menzies and others.

Published by the authority of the Stephenson Locomotive Society and obtainable from F. H. Smith, Honorary Treasure, 159, Davidson Road, Croydon, Surrey, 6 in. × 10 in. 61 pp. Paper covers. (Price : 2 s. 3 d., post free.)

1939 385. (06 (.73)

National Association of Railroad and Utilities Commissioners, Proceedings of fiftieth annual convention, New Orleans, La., 1938.

New York : published by the State Law Reporting Company. 719 pages. 9 in. by 6 in. Bound in cloth. (Price : $ 6.)

1939

WALSH (H. N.).

How to make good concrete.

London : Concrete Publications, Ltd., 14, Darthm street, W. C. 1. (Price : 4 s. net.)

1939 6

WORSDALE (R.).

The Association of Engineering and Shipbui Draughtsmen.

The manufacture of high strength light alloy e sions and their use in general engineering d including aircraft, transport and shipbuilding.

London : The Draughtman Publishing Co., (Price: 2 s. net.)

In Spanish.

1939 385. (09

UNIVERSIDAD DE BUENOS AIRES.

Historia económica y financiera de los Ferroca Argentinos. Fascículo I : El Ferrocarril Central Cor Su desarrollo económico-financiero y su incorporac la red del Estado.

Buenos Aires. Universidad de Buenos Aires. 1 men, 67 páginas y cuadros.

In Italian.

1939 62.

AGRESTI (F.) e PEDRELLI (G.).

Lezioni di resistenza dei materiali.

Bologna, L. Capelli. 1 volume, 352 pagine. (Pre 30 Lire.)

1939 62

COLOMBO (G.).

Manuale dell' Ingegneria Civile e Industriale.

Bologna, L. Cappelli. 1 volume, 1 429 pagine. (zo : 56 Lire.)

1939 691 & 7

SANTARELLA (L.).

Il cemento armato. Volume terzo : **Monografi costruzione italiane civili ed industriali.**

Milano, U. Hoepli. 1 volume, 392 pagine e 301 fi e 1 volume, 61 tavole.

1939 62

SEMENZA (M.).

Trazione elettrica. (Corso svolto nell' anno ac mico 1937-1938 — XVI).

Bologna, L. Cappelli. 1 volume, 353 pagine. (Pre 35 Lire.)

1939 625.

STABILINI (L.).

Lezioni di costruzioni stradali e ferroviarie.

Bologna, L. Cappelli. 1 volume, 635 pagine. (Pre 100 Lire.)

)16. 385. (05]

II. — PERIODICALS.

In French.

Annales des Mines. (Paris.)

39 **656 .234**

ales des mines, mars, p. 43.

FAY (P.). — Note sur les **tarifs optima** dans les prises de transports publics de voyageurs des ré- urbaines. (6 600 mots & fig.)

Annales des Ponts et Chaussées (Paris).

39 **624 .5**

ales des ponts et chaussées, mars, p. 305.

GEAUD. — Calcul des **ponts suspendus.** (12 600 & 3 tableaux.)

Bulletin de l'Union internationale des chemins de fer. (Paris.)

)39 **385 .113 (.3)**

de l'Union intern. des ch. de fer, avril-mai, p. 113.

mparaison du trafic, des recettes et des dépenses ploitation des chemins de fer pour les années 1929 38. (3 000 mots & tableaux.)

)39 **385 .113 (.45)**

de l'Union intern. des ch. de fer, avril-mai, p. 125.

s Chemins de fer de l'Etat italien pendant les exer- 1936-1937 et 1937-1938. (6 200 mots.)

)39 **625 .285 (.3)**

de l'Union intern. des ch. de fer, avril-mai, p. 133.

s progrès de la traction par engins à moteurs ther- ues sur les chemins de fer des principaux pays du de. (5 900 mots.)

)39 **385 .113 (.73)**

de l'Union intern. des ch. de fer, avril-mai, p. 141.

s chemins de fer des Etats-Unis en 1938. (5 400 s.)

)39 **656 (.44)**

de l'Union intern. des ch. de fer, avril-mai, p. 147.

nouveau régime de la **coordination** du rail et de la e en France. (10 700 mots.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

939 **385 .63**

des transp. intern. par ch. de fer, mai, p. 188.

HIMENTI (E.). — L'usage de la **marchandise en ic international** et l'**application des tarifs et des axes.** (1 900 mots.)

1939 **313 .385 (.47 .42)**

Bull. des transp. intern. par ch. de fer, mai, p. 228.

Les **Chemins de fer de l'Etat d'Estonie** durant l'exercice 1937-38. (600 mots.)

1939 **385 .62 & 385 .63**

Bull. des transp. intern. par ch. de fer, juin, p. 234.

WIZDALEK (E.). — A propos de la révision des **conventions internationales** concernant les transports par chemins de fer (CIM et CIV). (3 000 mots.)

1939 **385 .63**

Bull. des transp. intern. par ch. de fer, juin, p. 239.

MARK (E.). — A propos de la « Prolongation des **délais de livraison** de la CIM. (3 500 mots.)

1939 **313 .385 (.497 .1)**

Bull. des transp. intern. par ch. de fer, juin, p. 268.

Les **Chemins de fer du Royaume yougoslave** pendant l'exercice 1937. (700 mots.)

Bulletin technique de l'Association des Ingénieurs sortis de l'Ecole Polytechnique de Bruxelles. (Bruxelles.)

1938 **62. (01 & 621 .392**

Bull. techn. de l'Ass. des Ing. sortis de l'Ecole Polytech. de Bruxelles, nos 10-11, p. 245.

ROSENTHAL (D.) & LEVRAY (P.). — Les **assemblages soudés par recouvrement.** Comportement élastique et résistance statique des cordons latéraux. (4 000 mots, 7 tableaux & fig.)

Bulletin technique de la Suisse romande. (Vevey.)

1939 **621 .335 (.494) & 621 .338 (.494)**

Bull. techn. de la Suisse romande, n° 12, 17 juin, p. 156.

Trains légers séries BCFZe 4/6 et CFZe 2/6, de la Compagnie du Chemin de fer des Alpes bernoises Berne-Loetschberg-Simplon. (1 700 mots & fig.)

Economie et technique des transports. (Lucerne).

1939 **621 .33 (.437)**

Economie et technique des transports, mars, p. 26, avril, p. 45.

BILEK (J.). La **traction électrique** dans les transports publics en Tchécoslovaquie entre 1918 et 1938. (1 700 mots & fig.)

1939 **625 .2 : 625 .62 (.45)**

Economie et technique des transports, mars, p. 32, avril, p. 39.

FERRARI (R.). — Le **service du matériel roulant** des tramways municipaux de Milan. (2 000 mots & fig.)

France Transports. (Paris.)

1939 **656 (.44)**

France, Transports, n° 277, 15 juin, p. 13.

LAPLAINE (R.). — Les transports à petite distance et la **coordination.** (2 600 mots.)

Génie civil. (Paris.)

1939 **621 .132.8 (.73)**

Génie civil, n° 2964, 3 juin, p. 453.

Locomotive à turbines, à transmission électrique, de l'Union Pacific Railroad (Etats-Unis). (2 600 mots & fig.)

1939 **656 & 669**

Génie civil, n° 2964, 3 juin, p. 456.

PORTEVIN (A.). — L'influence de la **métallurgie** sur les progrès des transports. (6 400 mots & fig.)

1939 **625 .2 (01**

Génie civil, n° 2964, 3 juin, p. 460.

CHABOUIS. — Contribution à l'étude du fonctionnement des **roues de véhicules.** (3 800 mots & fig.)

1939 **621 .33 (.44)**

Génie civil, n° 2964, 3 juin, p. 468.

L'inauguration officielle de la **traction électrique** sur la totalité de la ligne de chemin de fer de Paris à Irun (Espagne). (1 100 mots & fig.)

1939 **725 (.44)**

Génie civil, n° 2965, 10 juin, p. 477.

CALFAS (P.). — Le **nouvel hôtel** du Ministère des Postes, Télégraphes et Téléphones, à Paris. (2 000 mots & fig.)

1939 **656 .286 (.44)**

Génie civil, n° 2965, 10 juin, p. 483.

MESTRE (A.). — **Accidents de chemins de fer** et responsabilité de la Compagnie. (500 mots.)

1939 **621 .13 (.73) & 621 .335 (.73)**

Génie civil, n° 2966, 17 juin, p. 501.

CHAPELON (A.). — Les leçons de l'**expérience ferroviaire américaine** après un voyage aux Etats-Unis. (7 000 mots & fig.)

La Technique moderne. (Paris.)

1939 **625 .143.3**

La Technique moderne, n° 12, 15 juin, p. 466.

Machines nouvelles pour l'**usinage des rails neufs** et de récupération. (3 000 mots & fig.)

Le Container. (Paris.)

1939 **656 .225 (.4) & 656 .261 (.4)**

Le Container, juin, p. 2.

Le développement du **trafic par containers** en Europe pendant l'année 1938. (6 000 mots.)

1939 **656 .225 (.44) & 656 .237.7 (**

Le Container, juin, p. 16.

Nouvelle réglementation douanière pour les **tainers** en France. (1 300 mots.)

Le Rail. (Bruxelles.)

1939 **621 .132.3 (.**

Le Rail, 15 mai, p. 3.

NOTESSE (R.). — La **nouvelle locomotive « A tic n° 1201 ».** (2 100 mots & fig.)

1939 **725 .31 (.**

Le Rail, 15 mai, p. 7.

La **nouvelle gare** de Bruges. (1 400 mots & fig.)

1939 **656 .2**

Le Rail, 15 mai, p. 14.

LEGROS (F.). — Le **paiement des prix de trans** Facilité — Simplicité. (2 100 mots et fig.)

Les transports modernes. (Paris.)

1939 **621 .43**

Les transports modernes, février, p. 23.

VALAT (E.). — Esquisse d'une théorie de la **loco tive Diesel-électrique.** (3 000 mots.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **621 .132.8 (.44) & 621 .431.72 (**

L'Ind. des voies ferrées et des transp. autom., a p. 100.

ARMAND. — Les **locomotives Diesel-électriqu** L'expérience du P. L. M. (6 200 mots & fig.)

1939 **621 .435 (.44) & 656 .132 (**

L'Ind. des voies ferrées et des transp. autom., a p. 111.

L'exploitation de lignes d'autobus par des **véhicul gazogène** dans la région bordelaise. (800 mots & fig

1939 **621 .435 (.43) & 625 .62 (**

L'Ind. des voies ferrées et des transp. autom., a p. 112.

Motrices de tramways suburbains allemands mu de gazogènes au charbon de bois. — Description gazogène d'un type léger. (800 mots & fig.)

Revue de l'Ecole polytechnique. (Bruxelles

1939 **621 .33 : 625**

Revue de l'Ecole polytechnique, avril-mai, p. 159.

DANDOY (A.). — Le problème de la **récupéra d'énergie** en traction continue dans les exploitation tramways. (2 700 mots & fig.)

evue générale des chemins de fer. (Paris.)

39 **621 .132.8 (.44)**
ie générale des chemins de fer, 1er juin, p. 417.
fAN. — **Locomotive à chaudière Velox** de la Société onale des Chemins de fer français. (6 000 mots &

39 **625 .258 & 656 .212.5**
ie générale des chemins de fer, 1er juin, p. 434.
NOT. — Un **appareil de freinage entièrement auto-que** pour voies de triage par la gravité. (4 300 mots g.)

39 **621 .392 (.44) & 625 .143.4 (.44)**
ie générale des chemins de fer, 1er juin, p. 446.
ARNIEZ. — La **soudure des rails** à la Région du de la Société Nationale des chemins de fer fran- (6 500 mots & fig.)

Revue universelle des Mines. (Liége.)

39 **669 .1**
ie universelle des mines, juin, p. 305.
AGNER (J.). — Le rôle des éléments d'alliages les **aciers spéciaux.** (10 600 mots & fig.)

Traction nouvelle. (Paris.)

39 **621 .431.72 (.44)**
tion nouvelle, mai-juin, p. 82.
)URNEUR (Ch.). — Les deux **locomotives Diesel** riques de 4 000 chevaux. (4 000 mots & fig.)

39 **621 .335 (.44)**
tion nouvelle, mai-juin, p. 90.
RSONNIN (H), — Le premier **autorail « Amphi-** Alsthom-Soulé. (1 400 mots & fig.)

39 **621 .132.8 (.6)**
tion nouvelle, mai-juin, p. 92.
ÉTÉNIER (C.). — 20 **locomotives Garratt.** Société co-Belge pour les colonies françaises. (2 000 mots &

39 **621 .13 (.73)**
tion nouvelle, mai-juin, p. 96.
[APELON (A.). — Derniers progrès de la technique icaine des **locomotives à vapeur.** (6 600 mots &

39 **621 .335 (.44)**
tion nouvelle, mai-juin, p. 110.
VILLERS (L.). — Les **automotrices électriques** de gne de Paris à Saint-Remy Les Chevreuse. (1 600 & fig.)

39 **625 .231**
tion nouvelle, mai-juin, p. 112.
)UBIAT (J. P.). — Le **chauffage des autorails** par hermes. (1 500 mots & fig.)

Union internationale des producteurs et distributeurs d'énergie électrique. (Paris.)

1939 **656 .136**
Union intern. des product. et distrib. d'énergie électr., mars-avril, p. 11.
Le développement des **trolleybus** dans les divers pays du monde. (1 300 mots.)

In German.

Der Bahn-Ingenieur. (Berlin).

1939 **621 .138.5 (.43) & 625 .26 (.43)**
Der Bahn-Ingenieur, Nr. 23, 4. Juni, S. 395.
SCHLOMBS. — Planmässige Bewirtschaftung und Erhaltung des **Werkzeugmaschinenparks** in den Reichsbahn-Ausbesserungswerken. (4 000 Wörter & Abb.)

1939 **62. (01 & 691**
Der Bahn-Ingenieur, Nr. 23, 4. Juni, S. 403.
ROTHFUCHS. — **Verbesserung des Betons** durch feinkörnige Grubensande. (3 700 Wörter & Abb.)

1939 **656 .21**
Der Bahn-Ingenieur, Nr. 24, 11. Juni, S. 411.
DERIKARK. — **Grosstädtische Bahnhofsanlagen** im Spiegel der Stadtentwicklung. (8 200 Wörter & Abb.)

1939 **625 .14 (01 & 656 .222.1**
Der Bahn-Ingenieur, Nr. 25-26, 18.-25. Juni, S. 427.
WUNDENBERG. — Einfluss des Oberbaues auf die zulässige **Fahrgeschwindigkeit.** (6 800 Wörter & Abb.)

Die Lokomotive. (Berlin).

1939 **621 .132.5 (.43)**
Die Lokomotive. Juni. S. 75.
ZIMMERMANN (W.). — **1' D 1' Lokomotive Reihe 41** der Deutschen Reichsbahn für den Güterschnellverkehr. (1 400 Wörter & Abb.)

1939 **621 .132.3 (.73)**
Die Lokomotive. Juni. S. 78.
GIESL (A.). — **3 BB 3 Versuchs-Schnellzug-Lokomotive** der Pennsylvania-Bahn. (1 600 Wörter & Abb.)

1939 **621 .133.1 (.81)**
Die Lokomotive, Juni, S. 81.
SCHNEIDER (L.). — Tropische Hölzer und Nationalkohle als **Lokomotivbrennstoff** in Brasilien. (2 600 Wörter & Abb.)

1939 **621 .132.8 (.43)**
Die Lokomotive, Juni, S. 86.
REHBERGER. — Die **Lokomotiven der Eisenbahn-Schiffbrücken** über den Rhein. (2 700 Wörter & Abb.)

Die Reichsbahn. (Berlin.)

1939 **385 .113 (.43)**

Die Reichsbahn, Heft 20-21, 17.-24. Mai, S. 486.

Geschäftsbericht der Deutschen Reichsbahn über das Geschäftsjahr 1938. (8 000 Wörter.)

1939 **657. (.43)**

Die Reichsbahn, Heft 20-21, 17.-24. Mai, S. 496.

FINGER. — Der **Rechnungsabschluss** der Reichsbahn im Spiegel des Aktiengesetzes. (29 700 Wörter.)

1939 **621 .132.3 (.43)**

Die Reichsbahn, Heft 22, 31. Mai, S. 542.

WAGNER (R. P.). — Der Weg zur jüngsten **Reichsbahn-Schnellzuglokomotive,** Baureihe 06. (2 200 Wörter & Abb.)

1939 **385. (.43)**

Die Reichsbahn, Heft 23, 7. Juni, S. 587.

KÜHNE. — Leistungssicherung in der **Erhaltungswirtschaft** der Deutschen Reichsbahn. (6 900 Wörter.)

Elektrische Bahnen. (Berlin.)

1939 **621 .335 (.43)**

Elektrische Bahnen, April, S. 92.

KLEINOW (W.). — **1' Do 1' Reichsbahn-Schnellzuglokomotive** Reihe E 19 für 180 km-h Geschwindigkeit. (3 900 Wörter & Abb.)

1939 **621 .335**

Elektrische Bahnen, April, S. 98.

CURTIUS (E. W.). — Ein neuer **Messwagen zur Untersuchung elektrischer Fahrzeuge** für hohe Geschwindigkeiten. (6 700 Wörter & Abb.)

1939 **621 .335 (.494)**

Elektrische Bahnen, April, S. 110.

STEINER (F.). — Der neue **Triebwagen Ce** 2/4 Nr. 701 der Schweizerischen Bundesbahnen. (1 000 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1939 **625 .26**

Glasers Annalen, Heft 10, 15. Mai, S. 119.

BIECK. — **Waschmachine** für Fahrzeug-Untergestelle und Laufwerksteile. (2 900 Wörter & Abb.)

1939 **621 .131**

Glasers Annalen, Heft 10, 15. Mai, S. 123.

VELTE. — Zuschrift an die Schriftleitung. (1 200 Wörter.)

Gleistechnik und Fahrbahnbau (Karlsruhe.).

1939 **625 .144.2**

Gleistechnik und Fahrbahnbau, Heft 11-12, 15. Juni, S. 89.

PETRONI (E.). — **Austeilung der Bogenschienen.** (2 000 Wörter & Abb.)

1939 **625 .**

Gleistechnik und Fahrbahnbau, Heft 11-12, 15. S. 93.

BREIDENBACH. — **Ermittlung der Ausgleichs nen** und Setzen der Lehrschienen beim Bettung form-Verfahren in Gleisbogen. (3 500 Wörter & Al

Organ für die Fortschritte des Eisenbahnwe (Berlin.)

1939 **62. (01 & 625**

Organ für die Fortschr. des Eisenbahnw., Hef 1. Juni, S. 207.

TASCHINGER (O.). — Festigkeitsversuche mi sonders **leicht gebauten Drehgestellen.** (7 500 W 7 Tabellen & Abb.)

1939 **621 .135.4 & 625**

Organ für die Fortschr. des Eisenbahnw., Hef 1. Juni, S. 219.

ECKINGER (K. F.). — Die **hydraulische Dreip stützung** von Kranbühnen auf Drehgestellen. Wörter & Abb.)

1939 **621**

Organ für die Fortschr. des Eisenbahnw., Hef 15. Juni, S. 225.

ANGERER (F. L.). — Verfahren zur **Bestimmur Lokomotivleistung** mit einfachen Hilfsmitteln. Wörter & 5 Tafeln.)

1939 **621 .134.1 & 621**

Organ für die Fortschr. des Eisenbahnw., Hef 15. Juni, S. 232.

REITER (M.). — **Geschweisste Lokomotivzyl** (3 800 Wörter & Abb.)

Verkehrs technische Woche. (Berlin.)

1939 **621 .4**

Verkehrstechnische Woche, Heft 21, 24. Mai, S.

MÜNZER (C. Th.). — **Diesel-elektrischer Antrie Fahrgastzügen** mit 7 bis 8 D-Wagen. (2 500 Wör Abb.)

1939 **385. (.494) & 656.**

Verkehrstechnische Woche, Heft 22, 31. Mai, S. 2

WANNER (F.). — Die **Verkehrspolitik** der nossenschaft im Umbruch. (6 600 Wörter.)

1939

Verkehrstechnische Woche, Heft 23, 7. Juni, S. 26

OTTO (G.). — **Fahrzeuge für Massenbeförderun grosstädtischen Verkehrs** und ihr zweckmässiger satz. (5 200 Wörter & Abb.)

1939 **621 .3**

Verkehrstechnische Woche, Heft 24-25, 14-21. S. 277.

SCHWARZ (K.). — Wirtschaftliche und geog sche Grundlagen für den **Entwurf von elektrischen nen** für die deutschen Kolonialgebiete in Afrika. (Wörter & Abb.)

itschrift des Vereines deutscher Ingenieure. (Berlin.)

39 **62. (01 & 669**

schr. des Ver. deutsch. Ing., Nr. 21, 27. Mai, S. 655.
IEGAND (H.) & SCHEINOST (R.). — **Dauerfestig-** hartverchromter Teile. (2 800 Wörter & Abb.)

---

39 **656 .211.5**

schr. des Ver. deutsch. Ing., Nr. 22, 3. Juni, S. 669.
LATZ (G.). — **Schalter-Fahrkartendrucker.** (5 500 ter & Abb.)

---

39 **694**

schr. des Ver. deutsch. Ing., Nr. 22, 3. Juni, S. 685.
RDMANN (W.). — **Holzschutz** gegen Fäulnis in iuden. (2 700 Wörter & Abb.)

---

039 **62. (01 & 691**

schr. des Ver. deutsch. Ing., Nr. 23, 10. Juni, S. 703.
IEDERHOLT (W.). — Stand der internationalen **rosionsforschung.** (3 800 Wörter.)

---

039 **621 .392**

schr. des Ver. deutsch. Ing., Nr. 23, 10. Juni, S. 707.
ORNELIUS (H.). — **Schweissen von Chromstählen.** 00 Wörter & 8 Tafeln.)

Zeitschrift für das gesamte Eisenbahn-Sicherungswesen. (Berlin.)

939 **656 .25 (.436)**

schr. für das ges. Eisenb.-Sicherungs- und Fern- meldew., Nr. 7, 20. Mai, S. 73.
IESOK (W.). — Die **Sicherungs- und Streckenblock-** gen österreichischer Bauart. (3 000 Wörter & Abb.)

---

939 **656 .256**

schr. für das ges. Eisenb.-Sicherungs- und Fern- meldew., Nr. 7, 20. Mai, S. 78.
AESSNER (A.). — **Bahnhofsblockschaltung** mit ppenblockfeldern. (1 900 Wörter & Abb.)

---

939 **656 .256.3 (.43)**

schr. für das ges. Eisenb.-Sicherungs- und Fern- meldew., Nr. 8, 10. Juni, S. 85.
HAUSSETTE. — Die **Fahrtsignallöschung** bei den sttätigen Signalanlagen der Berliner S-Bahn. (3 400 ter & Abb.)

---

939 **656 .212.5 & 656 .259**

schr. für das ges. Eisenb.-Sicherungs- und Fern- meldew., Nr. 8, 10. Juni, S. 90.
CHMITZ (W.). — **Gleismelder mit Altersstufen.** wicklungsgeschichtliche Betrachtung. (1 900 Wörter bb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **385 .1 (.43)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 21, 25. Mai, S. 423.

KEHL (W.). — **Investitionen und Finanzen.** Betrachtungen zur Ertragslage der Reichsbahn im Jahre 1938. (15 000 Wörter.)

1939 **656. (.6)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 22, 1. Juni, S. 447.

REMY. — Die **Verkehrslage** in Afrika südlich der Sahara. (8 400 Wörter.)

1939 **656 .224 (.42)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 22, 1. Juni, S. 457.

Vergnügungsverkehr in London. (2 800 Wörter.)

1939 **659. (.494)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 23, 8. Juni, S. 467.

WANNER (F.). — Der organisatorische Neuaufbau der schweizerischen **Auslands-Verkehrswerbung.** (3 700 Wörter.)

1939 **656**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 23, 8. Juni, S. 471.

HEUBEL. — Neue Wege zu **einheitlicher Verkehrspolitik.** (3 000 Wörter.)

1939 **385 .59 (.43)**

Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 24, 15. Juni, S. 486.

BRUNNER. — Die **Schadensersatzansprüche** der Reichsbahn gegen ihre Bediensteten. (7 300 Wörter.)

In English.

Electrical Industries. (London.)

1939 **621 .336**

Electrical Industries, June, p. 229.

FORREST (J. S.). — **Cleaning insulators.** (2 000 words & fig.)

1939 **313 : 621 .31**

Electrical Industries, June, p. 236.

RAHMER (B. A.). — World production. **A comparison of the production, exportation and consumption of electrical energy** in various countries of the world. (1 200 words, tables & fig.)

Engineer. (London.)

1939 **621 .6**

Engineer, No. 4349, May 19, pp. 614 & 619.

JENNINGS (J.). — Dimensional analysis and the **performance of centrifugal pumps and fans.** (4 200 words.)

1939 **621 .131.3 (.42 + .73)**
Engineer, No. 4349, May 19, p. 619.
North American and English locomotive experiences. (2 900 words.)

1939 **669 .1 (06 (.42)**
Engineer, No. 4349, p. 625; No. 4350, May 26, p. 658 and No. 4351, June 2, p. 683.
THE IRON AND STEEL INSTITUTE. — **Liquid steel temperatures; Strain ageing of dead mild steel; Refractory materials, etc.** (14 000 words.)

1939 **621 .116 & 621 .392**
Engineer, No. 4349, May 19, p. 628.
An all-welded steel boiler. (500 words & fig.)

1939 **62. (01 & 669**
Engineer, No. 4349,, May 19, p. 629.
BARKER (F. G.). — The **spectograph** and the **quantitative analysis of metals.** (4 200 words, tables & fig.)

1939 **621 .438**
Engineer, No. 4350, May 26, p. 640.
BURSTALL (A. F.). — Experiments on a **high-speed producer gas engine.** (4 000 words, tables & fig.)

1939 **656 .211.7 (.42) & 699 (.42)**
Engineer, No. 4350, May 26, p. 647.
The cross-channel motorship « Royal Daffodil ». (1 500 words & fig.)

1939 **693 & 721 .9**
Engineer, No. 4350, May 26, p. 648.
Reinforced brickwork. (900 words & fig.)

1939 **385 .3 (.42)**
Engineer, No.4350, May 26, p. 651.
The co-ordination of transport. (3 200 words.)

1939 **669 .1**
Engineer, No. 4350, May 26, p. 659.
NORTHCOTT (L.). — **Casting steel by the Durville rotatory process.** (2 000 words, tables & fig.)

1939 **385 .3 (.42) & 656. (.42)**
Engineer, No. 4350, May 26, p. 661.
The Inland transportation question. (3 900 words.)

1939 **625 .25**
Engineer, No. 4351, June 2, p. 686.
Booster for hydraulic brakes and other mechanisms. (4 400 words & fig.)

1939 **625 .13 (.54)**
Engineer, No. 4352, June 9, p. 703.
Reconstruction of the Churia tunnel, Nepal. (1 500 words & fig.)

1939 **621 .132.3 (.89)**
Engineer, No. 4352, June 9, p. 714.
Reconstructed locomotives on the Central Uruguay Railway. (3 000 words & fig.)

1939 **629 .11 & 656**
Engineer, No. 4352, June 9, p. 717.
A new road trailer. (300 words & fig.)

1939 **6**
Engineer, No. 4352, June 9, p. 720.
Descaling steel by flame process. (2 500 words &

Engineering. (London.)

1939 **621 .33 (.494) & 625 .3 (**
Engineering, No. 3827, May 19, p. 579.
The electrification on the Mount Pilatus rai
(2 200 words & fig.)

1939 **669 .1 (06**
Engineering, No. 3827, May 19, p. 585 and No. May 26, p. 612.
THE IRON AND STEEL INSTITUTE. (Discussi papers on : **strain age-hardening of mild steel influence of carbonising conditions on coke prope** etc.). (13 000 words.)

1939 **621 .431.72 (.82) & 625 .232**
Engineering, No. 827, May 19, p. 601.
Diesel trains for the Argentine State Railways. words & fig.)

1939 **621 .392 (06**
Engineering, No. 3827, May 19, p. 602 and No. May 26, p. 635.
Third report of the Welding Research Comm
(6 900 words, tables & fig.)

1939 **62. (01 &**
Engineering, No. 3827, May 19, p. 605.
BARKER (F. G.). — **Some applications of the sp graph** to the quantitative analysis of ferrous and ferrous metals. (3 800 words, tables & fig.)

1939 **385 .3 (.42) & 656 .23**
Engineering, No. 3828, May 26, p. 624.
The regulation of **railway charges.** (2 000 word

1939 **621 .335 (.45) & 621 .338**
Engineering, No. 3828, May 26, p. 629.
Electric train for the Italian State Railways. words & fig.)

1939 **621 .438 & 629 .**
Engineering, No. 3828, May 26, p. 631.
Gas producer for road vehicles. (900 words & fi

1939 **621 .33**
Engineering, No. 3828, May 26, p. 634.
Railway electrification in France. (1 200 wor tables.)

1939 **621**
Engineering, No. 3829, June 2, p. 645.
Pencil indicator for diesel engines. (1 200 wor fig.)

1939 625 .25 & 629 .113
gineering, No. 3829, June 2, p. 661.
ervo-brake system for heavy commercial vehicles. 100 words.)

1939 62. (01 & 662
gineering, No. 3829, June 2, p. 662.
BEAN (A. S.) and BROWN (J.). — The fundamental nciples and value of fuel testing. (2 300 words.)

1939 669 .1
gineering, No. 3829, June 2, p. 663.
Research on alloy steels. (2 600 words.)

1939 665 .882
gineering, No. 3829, June 2, p. 666.
ndon County Council regulations for oxy-acetylene lding. (1 100 words & tables.)

1939 697
gineering, No. 3830, June 9, p. 690.
Air-conditioning in industry. (4 000 words & fig.)

1939 621 .434
gineering, No. 3830, June 9, p. 693.
VILLIAMS (C. G.) and YOUNG (H. A.). — Piston-g blow-by on high-speed petrol engines. (1 800 words ig.)

1939 62. (01
gineering, No. 3830, June 9, p. 699.
Surface-roughness measuring instrument. (1 200 words ig.)

Engineering News Record. (New York.)

1939 62. (01 & 694
gineering News-Record, No. 19, May 11, p. 68.
SCHOLTEN (J. A.). — Strength of bolted timber nts. (900 words & tables.)

1939 62. (01 & 694
gineering News-Record. No. 19, May 11, p. 69.
NEWLIN (J. A.). — Bearing strength of wood at angle to the grain. (600 words & fig.)

1939 721 .1 (.73)
gineering News-Record, No. 19, May 11, p. 74.
OUGH (H. B.). — A wet shaft frozen tight. (2 200 rds & fig.)

1939 388
gineering News-Record, No. 21, May 25, p. 49.
Mass transportation : who should pay for it. (1 300 rds.)

1939 625 .13 (.73)
gineering News-Record, No. 21, May 25, p. 54.
Suspension bridge rebuilt under traffic. (2 200 words fig.)

1939 62. (08 & 721 .3
gineering News-Record, No. 21, May 25, p. 65.
WILLIAMS (J. P. J.). — Safe loads for spiral co-nns. (300 words & 1 table.)

1939 621 .392 & 721 .9
Engineering News-Record, No. 21, May 25, p. 71.
PANDYA (A. H.) and FOWLER (R. J.). — Welded diagonal grid framework. (1 100 words & fig.)

1939 625 .122 (.73)
Engineering News-Record, No. 23, June 8, p. 84.
Old rails hold fill slopes. (600 words & fig.)

1939 62. (01 (.73) & 693. (.73)
Engineering News-Record, No. 23, June 8, p. 85.
Protective coating for concrete placed in forms before pouring. (1 200 words & fig.)

1939 625 .111 (.73) & 625 .144.2 (.73)
Engineering News-Record, No. 23, June 8, p. 87.
KERR (W. W.). — Spiraling circular curves for high-speed trains. (2 200 words & fig.)

Journal, Institute of Transport. (London.)

1939 621 .33
Journal, Institute of Transport, June, p. 316.
ENGLAND (W. J.). — Some incidentals of a railway electrification scheme. (10 000 words.)

1939 388 & 656 .1
Journal, Institute of Transport, June, p. 326.
STEELE (J.). — Street transport and electricity. (3 000 words.)

1939 656 .7
Journal, Institute of Transport, June, p. 329.
PERCIVAL (E. W.). — Comfort in travel — by air. (2 900 words.)

Journal, Institution of Civil Engineers. (London.)

1939 721 .1
Journal, Institution of Civil Engineers, June, p. 106.
von TERZAGHI (K.). — « Soil mechanics — a new chapter in engineering science. » (16 000 words & fig.)

Journal, Institution of Engineers, Australia. (Sydney.)

1939 624 .52 (.94)
Journal, Institut. of Engineers, Australia, March, p. 97.
HOLT (J. A.). — Story Bridge, Brisbane. Part III. (9 500 words & fig.)

Mechanical Engineering. (New York.)

1939 621 .431 (.42)
Mechanical Engineering, June, p. 429.
BRUCE (A. K.). — Present position of heavy-oil and gas engines in Great Britain. (6 000 words & fig.)

1939 **669 .1 & 721 .9**
Mechanical Engineering, June, p. 455.
MORKEN (C. H.). — Some **engineering aspects of cast iron.** (5 300 words, tables & fig.)

1939 **621 .13 & 621 .335**
Mechanical Engineering, June, p. 466.
Steam-electric locomotive. (200 words & fig.)

1939 **625 .28**
Mechanical Engineering, June, p. 469.
Steam versus diesel-electrics. (1 700 words.)

1939 **621 .335**
Mechanical Engineering, June, p. 472.
Electric locomotives (4 200 words.)

Modern Transport. (London.)

1939 **656 .213 (.593)**
Modern Transport, No. 1052, May 13, p. 3.
Rangoon an entrepot for Far Eastern trade. Improvement of port facilities. (2 200 words & fig.)

1939 **621 .431.72 (.492)**
Modern Transport, No. 1052, May 13, p. 5.
Diesel-electric trains in the Netherlands. Three-car and five-car units with Maybach engines. (2 800 words & fig.)

1939 **621 .431.73 (.42)**
Modern Transport, No. 1052, May 13, p. 7.
Commercial vehicle road tests : new series. (1 900 words & fig.)

1939 **629 .113 & 669**
Modern Trasporнt, No. 1052, May 13, p. 9.
HART (D. B.). — **Use of aluminium for transport purposes.** No. 2. — Road vehicles. (1 600 words & fig.)

1939 **629 .113.5 (.42)**
Modern Transport, No. 1052, May 13, p. 15.
New coaches for London Transport. Leyland flat-engined vehicles. (1 500 words & fig.)

1939 **388 (.931)**
Modern Transport, No. 1052, May 13, p. 17.
CABLE (M.). — **Municipal transport in New Zealand.** (2 600 words & fig.)

1939 **656 .4 (.42)**
Modern Transport, No. 1052, May 13, p. 19.
Commercial research in railway transport. (1 100 words.)

1939 **385 .1 (.43)**
Modern Transport, No. 1053, May 20, p. 3 and No. 1054, May 27, p. 11.
Truth about Germany's railways. Meeting abnormal traffic demands. (4 200 words.)

1939 **621 .431.73 (.42)**
Modern Transport, No. 1053, May 20, p. 7.
Progress in the road vehicle industry. (1 200 words & fig.)

1939 **629 .113.5 (.**
Modern Transport, No. 1053, May 20, p. 12.
New Austin commercial models. **An attractive 8 van.** (1 400 words & fig.)

1939 **656 .1 & 656**
Modern Transport, No. 1053, May 20, p. 13.
Transport of milk by rail and road. Container syst in the U. S. A. (1 300 words & fig.)

1939 **656 .2 (.44 + .4**
Modern Transport, No. 1053, May 20, p. 15.
Franco-Spanish frontier railways. Effects of cessat of services. (2 400 words & 1 map.)

1939 **351 .81 (.42) & 656. (.**
Modern Transport, No. 1054, May 27, p. 3.
Step towards **transport unification.** Present ra system to be abolished. (3 400 words.)

1939 **629 .11 & 656 .1 (.**
Modern Transport, No. 1054, May 27, p. 5 and No. 1 June 3, p. 5.
PILCHER (R. S.). — **Road passenger transport** Great Britain. Horse-drawn tram to motor-bus. (5 words.)

1939 **656 .215 (.**
Modern Trasport, No. 1054, May 27, p. 12.
Lighting a railway goods yard. Installation at robi. (400 words & fig.)

1939 **625 .232 (.68) & 625 .234 (.**
Modern Transport, No. 1055, June 3, p. 3.
Air-conditioned trains for South African Railw (3 300 words & fig.)

1939 **625 .1 (.**
Modern Transport, No. 1055, June 3, p. 7.
Surrey's new railway. (1 200 words & fig.)

1939 **629 .113.65 (.**
Modern Transport, No. 1055, June 3, p. 12.
Road vehicle industry. High-speed electric vehi — New brake servo. (1 700 words & fig.)

1939 **388. (.42) & 656 .23 (**
Modern Transport, No. 1055, June 3, p. 13.
London fares increases. Rates Tribunal judgm (2 000 words.)

1939 **656 .25 (**
Modern Transport, No. 1055, June 3, p. 15.
Railway improvement in Northern Ireland. Resig ling at Coleraine. (2 700 words & fig.)

1939 **388. (**
Modern Transport, No. 1055, June 3, p. 18.
Twenty-five years of **public transport.** Efficie under **municipal control.** (2 000 words.)

1939 **388. (**
Modern Transport, No. 1056, June 10, p. 3.
Handling Lancashire holiday traffic. Achievemen five-year plan. (2 900 words & fig.)

939 388
lern Transport, No. 1056, June 10, p. 5.
UFF. (W.). — Place and function of communal nsport. Social and economic values. (3 800 words.)

939 385 .14 (.42) & 385 .3 (.42)
dern Transport, No. 1056, June 10, p. 7.
fter the « Square Deal ». (2 200 words.)

939 621 .431.72 (.44)
dern Transport, No. 1056, June 10, p. 9.
Railcar services in France. (1 000 words & fig.)

939 656 .1 (.91)
dern Transport, No. 1056, June 10, p. 11.
Road transport in the Malay States. (1 800 words.)

939 385 .1 (.469)
dern Transport, No. 1056, June 10, p. 12.
Railway position in Portugal. Serious decline in re-nues. (600 words.)

939 656 .1 (.54)
dern Transport, No. 1056, June 10, p. 12.
Road transport in India. Some recent developments. 000 words.)

939 656 .213 (.42) & 656 .7 (.42)
dern Transport, No. 1056, June 10, p. 13.
New Airways terminal. First « empire special » in. (1 000 words & fig.)

939 656 .132 (.42)
dern Transport, No. 1056, June 10, p. 19.
From the Mersey to the Solvay. Activities of Rible s undertaking. Co-ordination with other operators. 200 words & fig.)

939 656 .135 (.42)
dern Transport, No. 1056, June 10, p. 21.
GOSSELIN (C.). — Goods transport by road. (2 100 rds.)

939 629 .113.5 (.42) & 656 .132
dern Transport, No. 1056, June 10, p. 23.
Buses for tramway replacement. (900 words & fig.)

939 656 .132
dern Transport, No. 1056, June 10, p. 24.
Compiling faretables for bus services. (1 300 words.)

939 625 .1 & 656 .222.1
dern Transport, No. 1056, June 10, p. 28.
Railways and the quest for speed. (1 000 words.)

Proceedings, American Society of Civil Engineers. (New York.)

939 62. (01 & 621 .97
oceedings, American Society of Civil Engineers, May, p. 805.
Tension tests of large riveted joints. (17 000 words, bles & fig.)

Railway Age. (New York.)

1939 385. (093 (.73)
Railway Age, No. 18, May 6, p. 765.
« Golden Spike Days » honor Union Pacific. (2 300 words & fig.)

1939 656 .211.4 (.73) & 721 .31 (.73)
Railway Age, No. 18, May 6, p. 768.
Open Union passenger terminal at Los Angeles, Cal. (9 400 words & fig.)

1939 621 .132.3 (.71)
Railway Age, No. 18, May 6, p. 783.
Hudson type passenger locomotives for the Canadian Pacific. (1 500 words & fig.)

1939 656 .254 (.73) & 656 .256.2 (.73)
Railway Age, No. 19, May 13, p. 818.
Signaling for a train a minute on San Francisco bridge. (3 800 words & fig.)

1939 656 .211 (.73) & 721 .31 (.73)
Railway Age, No. 19, May 13, p. 823.
Long Island gets modernistic station at World's Fair. (2 900 words & fig.)

1939 656. (.73)
Railway Age, No. 19, May 13, p. 828.
FRINK (G. W.). — Rail-highway co-ordination brings business. (1 600 words.)

1939 621 .13 (0
Railway Age, No. 19, May 13, p. 830.
RAYMOND (A. A.). — Working the iron horse. (3 700 words & fig.)

1939 62. (01 (.73) & 625 .23 (0 (.73)
Railway Age, No. 20, May 20, p. 862.
NYSTROM (K. F.). — Designing new passenger cars. (4 500 words & fig.)

1939 621 .133.7 (.73)
Railway Age, No. 20, May 20, p. 867.
CURTISS (W. L.). — Water treatment. — What savings in fuel and boiler repairs ? (2 300 words & fig.)

1939 656 .212 (06 (.73)
Railway Age, No. 20, May 20, p. 873.
Freight Station Section meets after five years. — Problems of the agent receive consideration at successful convention at Chicago. (1 900 words.)

1939 621 .39 & 625 .23
Railway Age, No. 20, May 20, p. 877.
Is head-end train power coming back ? (900 words.)

1939 385 .1 & 656
Railway Age, No. 21, May 27, p. 897.
B. H. Meyer speaks his mind : The government has got to face the problem of equalizing competition. (3 100 words.)

1939 **725 .4 (.73)**
Railway Age, No. 21, May 27, p. 899.
Floodproof powerhouse, built at Pittsburg, Pa. (3 800 words & fig.)

1939 **385. (064 (.73)**
Railway Age, No. 21, May 27, p. 904.
« **Railroads at work** » **at the New York World's Fair.** (1 700 words & fig.)

1939 **621 .134.3 (.4)**
Railway Age, No. 21, May 27, p. 910.
Poppet valves in Europe. (1 600 words & fig.)

1939 **656 .1 (.73)**
Railway Age, No. 21, May 27, p. 913.
MURPHY (H. C.). — How Burlington is **co-ordinating rail and highway service.** (2 000 words & fig.)

1939 **385 .3 (.73)**
Railway Age, No. 21, May 27, p. 915.
Compulsory pooling out of S. 2009 provisions giving Interstate Commerce Commission power to require **distribution of revenues from general rate increases, and joint handling of l. c. l. eliminated.** (3 600 words.)

1939 **385. (064 (.73)**
Railway Age, No. 22, June 3, p. 937.
World's Fair Track Exhibits. (3 000 words & fig.)

1939 **656 .24 (.73)**
Railway Age, No. 22, June 3, p. 942.
Damage claims drop 3 millions. (2 500 words.)

1939 **625 .142.2 (.73)**
Railway Age, No. 22, June 3, p. 946.
Better ties at lower cost. (1 700 words.)

1939 **614 .8 (06 (.73)**
Railway Age, No. 22, June 3, p. 951.
1938 **safety** record a challenge. (3 100 words.)

1939 **625 .213 (.73)**
Railway Age, No. 23, June 10, p. 975.
Barber freight-car snubber. (300 words & fig.)

1939 **651. (.73) & 657. (.73)**
Railway Age, No. 23, June 10, p. 976.
Rock Island goes modern in **material accounting.** (6 000 words & fig.)

1939 **625 .214 (.73)**
Railway Age, No. 23, June 10, p. 984.
Roller side-bearing is improved. (500 words & fig.)

1939 **385. (064 (.73)**
Railway Age, No. 23, June 10, p. 985.
A peek at « **Railroads on Parade** ». High-spots of the Eastern railroads' pageant at the New York World's Fair depicting a tale of men and machines. (1 800 words & fig.)

1939 **656 .27 (.73) & 725 .3 (.73)**
Railway Age, No. 23, June 10, p. 989.
Fewer buildings — more money. (1 700 words.)

1939 **621 .135.2 (**
Railway Age, No. 23, June 10, p. 990.
Locomotive driving journals are oil lubricated. words & fig.)

1939 **625 .232 (.71 +**
Railway Age, No. 23, June 10, p. 992.
Railroads big factor in royal tour. (1 800 word fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **621 .392 (.73) & 665 .882 (**
Railway Engineering and Maintenance, June, p. 348.
Southern **butt-welds rails in track.** (2 700 word fig.)

1939 **691. (.73) & 694. (**
Railway Engineering and Maintenance, June, p. 353
Pier repaired for permanency with treated tim (2 800 words & fig.)

1939 **621 .392 (**
Railway Engineering and Maintenance, June, p. 355
Novel method for locating lost bridges. (700 word fig.)

1939 **625 .123 (**
Railway Engineering and Maintenance, June, p. 356
Bringing a hillside stream under effective cont (2 900 words & fig.)

1939 **656 .281 (**
Railway Engineering and Maintenance, June, p. 360
Damaged switches cause two serious **train derailme** (1 400 words & fig.)

Railway Gazette. (London.)

1939 **621 .131.3 (**
Railway Gazette, No. 20, May 19, p. 815.
The L. M. S. R. locomotive test runs. (1 000 wo & fig.)

1939 **625 .231 (**
Railway Gazette, No. 20, May 19, p. 816.
L. N. E. R. **camping coaches.** (500 words.)

1939 **625 .**
Railway Gazette, No. 20, May 19, p. 817.
Needle roller bearings. (800 words & fig.)

1939 **656 .25 (**
Railway Gazette, No. 20, Nay 19, p. 819.
Resignalling at Coleraine, L. M. S. R. (2 200 word fig.)

1939 **625 .13 (**
Railway Gazette, No. 20, May 19, p. 822.
Interesting bridge girder renewal in Peru. (300 wo & fig.)

)39 **621 .138.5 (.42) & 621 .9 (.42)**
way Gazette, No. 20, May 19, p. 823 and No. 21, May 26, p. 869.
achine tools and operations at St. Rollox works, L. S. R. (1 500 words & fig.)

)39 **625 .232 (.71)**
way Gazette, No. 20, May 19, pp. 826 and 836.
ew Royal train in Canada. (1 000 words & fig.)

---

39 **621 .431.72 (.43)**
way Gazette, No. 20, May 19, p. 829.
ie highest speed on rail. (900 words & fig.)

)39 **385 .3 (.42)**
way Gazette, No. 21, May 26, pp. 848 & 855.
ie « Square Deal » report. (5 800 words.)

---

39 **625 .232 (.68)**
way Gazette, No. 21, May 26, p. 861.
ew Union Limited and Union Express trains for h Africa. **Luxury air-conditioned steel coaches.**)0 words & fig.)

---

39 **621 .9**
way Gazette, No. 21, May 26, p. 869.
new countersinking tool. (300 words & fig.)

---

39 **625 .214 (.42)**
way Gazette, No. 22, June 2, p. 895.
silient thrust pad arrangement for axleboxes. (400 ls & fig.)

---

39 **621 .132.3 (.68) & 621 .132.5 (.68)**
way Gazette, No. 22, June 2, p. 896.
ew 4-8-2 type locomotives for South Africa. (900 ls & fig.)

)39 **656 .1 (.44) & 656 .2 (.44)**
way Gazette, No. 22, June 2, p. 903.
anch line closure in France. (1 map.)

---

39 **656 .225 (.73) & 676 .261 (.73)**
way Gazette, No. 22, June 2, p. 904.
UCHLER (W.). — **Freight transport** on the Penn-ania Railroad. (1 000 words & fig.)

)39 **629 .113.5 (.42)**
way Gazette, No. 22, June 2, p. 907.
ndon Transport's flat-engined coach fleet. (1 700 ls & fig.)

)39 **656 .1 (.42)**
way Gazette, No. 22, June 2, p. 909.
affic co-ordination in the Potteries. (1 800 words &

)39 **625 .1 (.42)**
way Gazette, No. 22, June 2, p. 911.
ew Surrey line, Southern Railway. (1 600 words &

)39 **388. (.42) & 656 .23 (.42)**
way Gazette, No. 23, June 9, p. 935.
)ndon passenger fares. (2 200 words & tables.)

1939 **621 .132.3 (.73)**
Railway Gazette, No. 23, June 9, p. 937.
The Hiawatha of the Milwaukee road. (4 800 words, tables & fig.)

1939 **725 .31 (.44)**
Railway Gazette, No. 23, June 9, p. 944.
New station at Mulhouse, Alsace. (1 100 words & fig.)

1939 **621 .132.3 (.66)**
Railway Gazette, No. 23, June 9, p. 945.
New 4-6-2 locomotive, Gold Coast Government Railway. (1 200 words & fig.)

1939 **656 .211.5 (.42)**
Railway Gazette, No. 23, June 9, p. 947.
Improvements at King's Cross, L. N. E. R. (1 000 words & fig.)

1939 **621 .33 (.68)**
Electric Railway Traction, p. 48, supplt. to the Railway Gazette, May 26.
The Reef electrification. (5 300 words & fig.)

1939 **621 .33 (.42)**
Electric Railway Traction, p. 54, supplt. to the Railway Gazette, May 26.
The Great Western Railway and electrification. (1 100 words, tables & fig.)

1939 **621 .431.72 & 621 .8**
Diesel Railway Traction, p. 86, supplt. to the Railway Gazette, June 9.
Remote-control of mechanical transmission. (3 200 words & fig.)

1939 **621 .431.72 (.65)**
Diesel Railway Traction, p. 91, supplt. to the Railway Gazette, June 9.
New railcar services in Algeria. (1 000 words & fig.)

1939 **621 .431.72 (.85)**
Diesel Railway Traction, p. 92, supplt. to the Railway Gazette, June 9.
English-built railcar for mountain-grade operation. (1 000 words & fig.)

1939 **621 .431.72 (.494)**
Diesel Railway Traction, p. 94, supplt. to the Railway Gazette, June 9.
Rebuilt diesel railcar for trailer haulage in Switzerland. (800 words & fig.)

1939 **621 .13 & 621 .431.72**
Diesel Railway Traction, p. 95, supplt. to the Railway Gazette, June 9.
Steam and diesel traction. (200 words.)

1939 **621 .431.72 (.73)**
Diesel Railway Traction, p. 96, supplt. to the Railway Gazette, June 9.
Main-line diesel operation on the Baltimore and Ohio. (1 400 words & fig.)

1939 **621 .431.72 (.89) & 656 .284 (.89)**
Diesel Railway Traction, p. 99, supplt. to the Railway Gazette, June 9.
FIRE (in diesel railcar in Uruguay). (1 100 words.)

Railway Magazine. (London.)

1939 **656 .211.7 & 699**
Railway Magazine, No. 504, June, p. 391.
TRIPP (G. W.). — **The modern railway steamer.** (4 000 words, tables & fig.)

1939 **656 .222.1 (.42)**
Railway Magazine, No. 504, June, p. 403.
ALLEN (C. J.). — **British locomotive practice and performance.** (4 200 words, tables & fig.)

1939 **659. (.42)**
Railway Magazine, No. 504, June, p. 423.
Excursionists on the footplate. (300 words & fig.)

Railway Mechanical Engineer. (New York.)

1939 **621 .431.72 (.73) & 625 .232 (.73)**
Railway Mechanical Engineer, May, p. 169.
Chicago, Burlington & Quincy installs « **General Pershing » Zephyr.** (4 100 words & fig.)

1939 **621 .131.21 (.73) & 621 .131.3 (.73)**
Railway Mechanical Engineer, May, p. 175.
Association of American Railroads **passenger locomotive tests.** (2 700 words & fig.)

1939 **621 .132.3 (.71)**
Railway Mechanical Engineer, May, p. 181.
Canadian Pacific Railway, **4-6-4 locomotives.** (2 000 words & fig.)

1939 **621 .133.7 (.73)**
Railway Mechanical Engineer, May, p. 185.
Auxiliary water cars effect savings. (600 words & fig.)

1939 **625 .214 (.73)**
Railway Mechanical Engineer, May, p. 185.
Roller side-bearing is improved. (500 words & fig.)

1939 **621 .131.3**
Railway Mechanical Engineer, May, p. 186.
Locomotive slipping tests-correction. (200 words & fig.)

1939 **621 .13 (0**
Railway Mechanical Engineer, May, p. 187.
Locomotive availability versus utilization. (1 300 words.)

1939 **621 .131.3 (.73)**
Railway Mechanical Engineer, May, p. 188.
Horsepower capacity at high speed. (900 words.)

1939 **625 .214 (.73) & 625 .26 (.73)**
Railway Mechanical Engineer, May, p. 190.
Omaha shop methods for **roller-bearing repairs.** (2 500 words & fig.)

1939 **625 .212 (.**
Railway Mechanical Engineer, May, p. 193.
HOGAN (P. J.). — **Wheel defects and failures.** (3 words.)

1939 **621 .85 (.**
Railway Mechanical Engineer, May, p. 197.
HAHN (J. H.). — **Railroad shop work requires p**cision gages. (2 000 words & fig.)

1939 **625 .**
Railway Mechanical Engineer, May, p. 200.
New type of **radiation for air compressors.** (words & fig.)

1939 **621 .95 (.**
Railway Mechanical Engineer, May, p. 201.
Multiple-spindle flue sheet drill. (500 words & f

1939 **621 .133.2 (.**
Railway Mechanical Engineer, May, p. 202.
Duo-cast locomotive grates tested. (600 words & f

Railway Signaling. (Chicago.)

1939 **656 .257 (.**
Railway Signaling, May, p. 269.
Remote control on the St. Louis Southwestern. (4 words & fig.)

1939 **656 .254 (.**
Railway Signaling, May, p. 274.
Cab signaling and train control. (2 900 words & f

1939 **625 .151 (.**
Railway Signaling, May, p. 280.
Improved movable-point crossing on the Misso Kansas-Texas. (1 100 words & fig.)

1939 **625 .162 (.73) & 656 .259 (.**
Railway Signaling, May, p. 281.
FRENCH (O. C.). — Santa Fe modernizes **cros protection.** (1 500 words & fig.)

1939 **654. (06 (**
Railway Signaling, May, p. 283.
Telegraph and Telephone Annual Session. Commu ation men discuss the relation of adequate commu ation facilities to efficient train and yard operat (3 800 words.)

1939 **656 .259 (**
Railway Signaling, May, p. 286.
Interstate Commerce Commission permits **remova derails.** (700 words.)

1939 **385 .3 (.73) & 656 .25 (**
Railway Signaling, June, p. 325.
Interstate Commerce Commission issues rules, s dards and instructions for signaling. (14 000 words.)

1939 **625 .171 (.73) & 656 .259 (**
Railway Signaling, June, p. 333.
Rock detector protection on the Western Pac (1 800 words & fig.)

939 **656 .259 (.73)**
way Signaling, June, p. 335.
rag detectors protect bridges. (1 600 words & fig.)

939 **625 .162 (.73) & 656 .259 (.73)**
way Signaling, June, p. 338.
utomatic gates on the Illinois Central. (1 500 words ig.)

939 **385 .3 (.73) & 656 .259 (.73)**
way Signaling, June, p. 340.
nterstate Commerce Commission permits removal of ils. (900 words.)

uth African Railways and Harbours Magazine. (Johannesburg.)

939 **621 .392 (.68) & 625 .143.4 (.68)**
th African Railways & Harbours Magazine, June, p. 756.
Welded rails on the South African Railways. (3 900 ds & fig.)

The Locomotive. (London.)

939 **659**
Locomotive, No. 561, May 15, p. 127.
ailway propaganda. (1 400 words.)

939 **621 .132.3 (.41)**
Locomotive, No. 561, May 15, p. 129.
reat Southern Railways. 800 class 4-6-0 express motives. (900 words & fig.)

939 **621 .132.5 (.73)**
Locomotive, No. 561, May 15, p. 130.
4-4-6 express locomotive, American Railroads. (300 ds & fig.)

939 **621 .13 (0 (.42 + .73)**
Locomotive, No. 561, May 15, p. 131.
IVESAY (E. H.). — Anglo-American notes. (1 800 ds & fig.)

939 **621 .134.1**
Locomotive, No. 561, May 15, p. 140.
orrect crank spacing. Three cylinder locomotives. 00 words & fig.)

939 **621 .13 (0 (.43)**
Locomotive, No. 561, May 15, p. 143.
erman locomotive practice. (2 200 words & fig.)

939 **625 .2**
Locomotive, No. 561, May 15, p. 146.
ANDERS (L. I.). — Carriage and wagon design and struction. II. Carriage and wagon underframes. 00 words & fig.)

939 **621 .33 (.42)**
Locomotive, No. 561, May 15, p. 147.
nstitution of Locomotive Engineers. Review of electraction in England. (1 900 words.)

1939 **625 .232 (.942)**
The Locomotive, No. 561, May 15, p. 151.
South Australian Railways. New steel passenger cars. (1 700 words & fig.)

1939 **313 : 621 .13 (.42)**
The Locomotive, No. 561, May 15, p. 153.
Locomotive stock returns, 1938. (800 words & 1 table.)

1939 **621 .134.2**
The Locomotive, No. 561, May 15, p. 155.
Walschaerts valve gears. Stephenson-Molyneux system. (700 words & fig.)

1939 **621 .132.8**
The Locomotive, No. 562, June 15, p. 159.
The articulated locomotive. (900 words.)

1939 **621 .132.5 (.68)**
The Locomotive, No. 562, June 15, p. 160.
Class « 15 F » 4-8-2 locomotives. South African Railways. (400 words & fig.)

1939 **621 .431.72 (.68)**
The Locomotive, No. 562, June 15, p. 161.
Diesel-electric locomotives. (900 words & fig.)

1939 **621 .135.4 (.68) & 625 .22 (.68)**
The Locomotive, No. 562, June 15, p. 166.
Experimental determination of the overturning speeds of railway vehicles on curves. (1 300 words & fig.)

1939 **621 .137 & 621 .138**
The Locomotive, No. 562, June 15, p. 172.
PHILLIPSON (E. A.). — The steam locomotive in traffic (1 800 words & fig.)

1939 **385. (064 (.494)**
The Locomotive, No. 562, June 15, p. 176.
Railway exhibits at Zurich. (1 500 words & fig.)

The Oil Engine. (London.)

1939 **621 .431.72**
The Oil Engine, No. 73, May, p. 26.
The diesel engines influence on rail transport. (1 600 words & fig.)

1939 **621 .436 & 621 .89**
The Oil Engine, No. 74, June, p. 40.
Diesel fuel and lubricant research. (2 200 words & fig.)

1939 **621 .436**
The Oil Engine, No. 74, June, p. 42.
Injectors for oil engines. (1 100 words & fig.)

1939 **621 .392 & 621 .9**
The Oil Engine, No. 74, June, p. 44.
An instrument for the measurement of surface finish.

1939 **621 .434 & 621 .436**
The Oil Engine, No. 74, June, p. 45.
The economy of the oil-engined bus. (900 words.)

1939 **621 .436**
The Oil Engine, No. 74, June, p. 54.
INGHAM (E.). — **Avoiding troubles with oil engine crankshaft and connecting-rod bearings.** (2 500 words & fig.)

Transit Journal. (New York.)

1939 **388. (.73) & 629 .113.5 (.73)**
Transit Journal, May, p. 152.
Imagination rebuilds a transit system. How the Lehigh Valley Transit Company has restyled all its equipment with particular emphasis on the details that create riding appeal 40 new buses bought. (2 500 words & fig.)

1939 **621 .338 (.73) & 625 .213 (.73)**
Transit Journal, May, p. 158.
Quieting existing cars with rubber. (2 000 words & fig.)

1939 **656 .136 (.73)**
Transit Journal, May, p. 160.
Rounding out the picture with trackless trolleys. (200 words & fig.)

1939 **388. (.73)**
Transit Journal, May, p. 162.
Looking at transit in South America. (2 000 words & fig.)

1939 **621 .33**
Transit Journal, May, p. 168.
MOSES (G. L.). — **Glass insulation for transportation equipment.** (1 800 words & fig.)

In Spanish.

Boletín de la Asociación internacional permanente del Congreso Sudamericano de ferrocarriles. (Buenos Aires.)

1939 **625 .162**
Boletín de la Asoc. intern. perm. del Congreso Sudameric. de ferrocarriles, marzo-abril, p. 19.
ALONSO (C. J.) y MEAURIO (C. E.). — **Cruce de carreteras con ferrocarril.** (9 400 palabras & fig.)

1939 **656**
Boletín de la Asoc. intern. perm. del Congreso Sudameric. de ferrocarriles, marzo-abril, p. 43.
ALURRALDE (N.). — **Coordinacion de transportes por carreteras, ferrocarriles y otras vías de communicación.** (3 500 palabras.)

1939 **621 .43**
Boletín de la Asoc. intern. perm. del Congreso Sudameric. de ferrocarriles, marzo-abril, p. 71.
PHEASANT (H. E.). — **Los coches motores.** (8 000 palabras & fig.)

In Italian.

Annali dei lavori pubblici. (Roma.)

1939 **62**
Annali dei lavori pubblici, marzo, p. 303.
NEGRI (G.). — **Travata** parallelepipeda con ripi trasversali rigidi sollecitata dissimmetricamente [illegible]

La tecnica professionale. (Firenze.)

1939 **621 .335 (**
La Tecnica professionale, giugno, p. 121.
ZATTONI. — **Descrizione della locomotiva** [illegible] (2 000 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Rom

1939 **621 .335 (**
Rivista tecnica delle ferrovie italiane, 15 maggio, p.
D'ARBELA (A.). — **Le automotrici elettriche** [illegible] tromotrici tipo ALe delle Ferrovie del Stato. [illegible] parole & fig.)

1939 **625 .13 (**
Rivista tecnica delle ferrovie italiane, 15 maggio, p.
GUALDI (T.). — **Il sottovia** Principe Um[illegible] Firenze. (6 000 parole & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 **385 .113**
Trasporti e lavori pubblici, Aprile, p. 125.
Dati di esercizio e patrimoniali di alcune amministrazioni ferroviarie per gli anni 1937 e 1938. (6 800 [illegible] & tavole.)

1939 **656 .2 (**
Trasporti e lavori pubblici, Aprile, p. 140.
Sistemazione ferroviaria della Liguria occide[illegible] (2 100 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 **624**
De Ingenieur, nr 6, 2 Juni, p. Bt. 45.
KIST (J.). — **Gootprofielen en verstijfde staafb[illegible] voor gewapend-beton bovenbouw van bruggen en ducten** voor gewoon verkeer. (3 600 woorden & fig.)

1939 **621 .431.72 (.492) & 621 .89 (.**
De Ingenieur, nr 24, 16 Juni, p. V. 31.
MATTHIJSEN (L.). — **Onderzoekingsresultaten gebruikte smeerolie** uit de Maybachmotoren der 3 [illegible] gendieseltreinen van de Nederlandsche Spoorw[illegible] (2 400 woorden & 2 Tabellen.)

[illegible]

[illegible]

[illegible]

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(SEPTEMBER 1939)

016. 385. (02]

I. — BOOKS.

In French.

939 62. (01

ERMITE (R.).

çons sur les essais de matériaux. — I. La structure déformation des solides. — II. Essais des métaux. ris, Hermann & Cie, 6, rue de la Sorbonne. 2 vol. x : 18 fr. français par volume.)

939 537 .7

M (A.).

ppareils de mesures électriques.

ris, Dunod, 92, rue Bonaparte. 1 volume (16 × 25 . 329 pages et 205 figures. (Prix : 150 fr. français.)

In German.

939 656 .254 (.43)

AUSKOPF.

e Entwicklung und der Stand der Zugbeeinflussung ler Deutschen Reichsbahn.

rlin-Wien-Leipzig, Otto Elsner Verlagsgesellschaft. nd, 165 Seiten, 283 Abbildungen. (Preis : 6.40 R.M.)

939 656 .1 (.43)

ER.

rassenverkehrsordnung 1937.

öln, Balduin Pick. 1 Band, 224 Seiten mit 58 Abb. is : 4.50 R.M.)

939 62. (01

MERMANN (Ernst).

erkstoffkunde und Werkstoffprüfung.

ipzig, Bibliothek der gesamten Technik. 1 Band, Seiten und 153 Abbildungen. (Preis : 3.60 R.M.)

In English.

939 621 .392

c welding in design, manufacture and construction.

eveland, Ohio : The James F. Lincoln Arc Welding ndation. (Price : $ 1.50 in U. S.; $ 2 elsewhere.)

1939 536 & 621

BAIRSTOW (L.).

Applied aerodynamics.

London : Longmans, Green and Co., Ltd., 39, Paternoster Row, E. C. 4. (Price : 63 s. net.)

1939 613

CHENOWETH (L. B.) and MACHLE (W.).

Industrial hygiene. A handbook of hygiene and toxicology for engineers and plant managers.

London : Sir Isaac Pitman and Sons, Ltd. (Price : 10 s. 6 d.)

1939 721 .9

DUNHAM (C. W.).

The theory and practice of reinforced concrete.

London : McGraw-Hill Publishing Co., Ltd., Aldwych House, W. C. 2. (Price : 25 s. net.)

1939 656 .211.7 (.42)

GRASEMAN (C.) and McLACHLAN (G. W. P.).

English Channel Packet boats.

London : Syren & Shipping Limited : 44-46, Leadenhall Street, E. C. 3. 8 3/4 in. × 5 3/4 in. 200 pp. Illustrated. (Price : 6 s. net.)

1939 621 .436

GREEN (A. B.) and ZOELLER (R. A.).

Audel's diesel engine manual. Questions and answers.

London : Sir Isaac Pitman and Sons, Ltd. (Price : 10 s. net.)

1939 533

JONES (B.).

Elements of practical aerodynamics. Second edition.

London : Chapman and Hall, Ltd. (Price : 18 s. 6 d. net.)

1939 621 .32 (02 (.42)

Regulations for the electrical equipment of buildings. Eleventh edition.

London : Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W. C. 2. (Price : 1 s. 6 d. net.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to lway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 1509).

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(SEPTEMBER 1939)

016. 385. (02]

I. — BOOKS.

In French.

939 **62. (01**

ERMITE (R.).

eçons sur les essais de matériaux. — I. La structure a déformation des solides. — II. Essais des métaux. aris, Hermann & Cie, 6, rue de la Sorbonne, 2 vol. .x : 18 fr. français par volume.)

939 **537 .7**

.M (A.).

ppareils de mesures électriques.

aris, Dunod, 92, rue Bonaparte. 1 volume (16 × 25 . 329 pages et 205 figures. (Prix : 150 fr. français.)

In German.

939 **656 .254 (.43)**

AUSKOPF.

ie Entwicklung und der Stand der Zugbeeinflussung der Deutschen Reichsbahn.

erlin-Wien-Leipzig, Otto Elsner Verlagsgesellschaft. und, 165 Seiten, 283 Abbildungen. (Preis : 6.40 R.M.)

939 **656 .1 (.43)**

IER.

rassenverkehrsordnung 1937.

öln, Balduin Pick. 1 Band, 224 Seiten mit 58 Abb. is : 4.50 R.M.)

939 **62. (01**

MERMANN (Ernst).

'erkstoffkunde und Werkstoffprüfung.

eipzig. Bibliothek der gesamten Technik. 1 Band, Seiten und 153 Abbildungen. (Preis : 3.60 R.M.)

In English.

939 **621 .392**

rc welding in design, manufacture and construction.

eveland, Ohio : The James F. Lincoln Arc Welding ndation. (Price : $ 1.50 in U. S.; $ 2 elsewhere.)

1939 **536 & 621**

BAIRSTOW (L.).

Applied aerodynamics.

London : Longmans, Green and Co., Ltd., 39, Paternoster Row, E. C. 4. (Price : 63 s. net.)

1939 **613**

CHENOWETH (L. B.) and MACHLE (W.).

Industrial hygiene. A handbook of hygiene and toxicology for engineers and plant managers.

London : Sir Isaac Pitman and Sons, Ltd. (Price : 10 s. 6 d.)

1939 **721 .9**

DUNHAM (C. W.).

The theory and practice of **reinforced concrete.**

London : McGraw-Hill Publishing Co., Ltd., Aldwych House, W. C. 2. (Price : 25 s. net.)

1939 **656 .211.7 (.42)**

GRASEMAN (C.) and McLACHLAN (G. W. P.).

English Channel Packet boats.

London : Syren & Shipping Limited : 44-46, Leadenhall Street, E. C. 3. 8 3/4 in. × 5 3/4 in. 200 pp. Illustrated. (Price : 6 s. net.)

1939 **621 .436**

GREEN (A. B.) and ZOELLER (R. A.).

Audel's diesel engine manual. Questions and answers.

London : Sir Isaac Pitman and Sons, Ltd. (Price : 10 s. net.)

1939 **533**

JONES (B.).

Elements of practical aerodynamics. Second edition.

London : Chapman and Hall, Ltd. (Price : 18 s. 6 d. net.)

1939 **621 .32 (02 (.42)**

Regulations for the **electrical equipment of buildings.** Eleventh edition.

London : Institution of Electrical Engineers, Savoy Place, Victoria Embankment, W. C. 2. (Price : 1 s. 6 d. net.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, p. 1509).

1939 **621 .436 (02**

ROSBLOOM (J.).

Diesel hand-book. A combined hand-book and text-book.

Jersey City, N. J. : Diesel Engineering Institute, 137-143, Franklin Street. (Price : $ 5.)

1939 **62. (01 & 694**

Strength tests of structural timbers. Part 4. The development of a minimum structural grade for red-wood.

London : Department of Scientific and Industrial Research, 9 1/2 in. × 6 in. 12 pp. (Price : 6 d. net.)

1939

TAYLOR (F.W.), THOMPSON (S. E.) & SMULSKI (

Reinforced concrete bridges.

London : Chapman and Hall, Ltd., 11, Henrietta S W. C. 2. (Price : 32 s. 6 d. net.)

1939 **659. (**

Through the Window (Paddington-Penzance).

London : Great Western Railway, Paddington Stat W. 2. 9 3/4 in. × 6 in. 64 pp. (Price : 6 d.)

1939 **385.**

Universal Directory of Railway Officials and the R way Year Book, 1939-40.

London : Directory Publishing Co., Ltd., 33, To Street, S. W. 1. (Price : 20 s net.)

[**016. 385. (05**]

II. — PERIODICALS.

In French.

Bulletin de l'Association française des amis des Chemins de fer. (Paris.)

1939 **621 .431.72 (.44)**

Bull. de l'Ass. française des amis des ch. de fer, avril, p. 65.

ROBINET (B.). — **Autorails modernes à voie métrique.** (7 400 mots, 3 tableaux & fig.)

1939 **621 .13 (.73)**

Bull. de l'Ass. française des amis des ch. de fer, mai-juin, p. 81.

CHAPELON (A.). — Les leçons de l'**expérience ferroviaire américaine** après un voyage aux Etats-Unis. (23 000 mots et fig.)

Bulletin de l'Union Internationale des chemins de fer. (Paris.)

1939 **385 .113 (.42)**

Bull. de l'Union intern. des ch. de fer, juin, p. 173.

SHERRINGTON (C. E. R.). — Les **quatre grandes Compagnies de chemins de fer** de Grande-Bretagne pendant l'exercice 1938. (13 200 mots & 22 tableaux.)

France Transports. (Paris.)

1939 **656 (.44)**

France Transports, n° 278, 1er juillet, p. 11.

LAPLAINE (R.). — Les **affréteurs de transports routiers** et les groupeurs dans la coordination. (2 200 mots.)

Génie civil. (Paris.)

1939 **624 .63 (.44)**

Génie civil, n° 2968, 1er juillet, p. 1.

Pont en béton armé de Villeneuve-Saint-Georges sur la Seine, près de Paris. (4 500 mots & fig.)

1939 **656 .136 (**

Génie civil, n° 2968, 1er juillet, p. 14.

Circulaire ministérielle favorisant l'extension des t leybus en France. (900 mots.)

1939 **656 .135 (**

Génie civil, n° 2968, 1er juillet, p. 16.

Tracteur Kaelble, de 180 chevaux, utilisé par les C mins de fer allemands pour les **transports routiers gros tonnage.** (800 mots & fig.)

1939 **621 .132.8 (**

Génie civil, n° 2969, 8 juillet, p. 25.

DUMAS (J.). — La **locomotive 230, à chaudière lox**, de la Société Nationale des Chemins de fer f çais. (3 700 mots & fig.)

1939 **72**

Génie civil, n° 2969, 8 juillet, p. 30.

CAUFOURIER (P.). — La mécanique des sols et application à l'établissement des **fondations.** (mots & fig.)

1939 **625**

Génie civil, n° 2970, 15 juillet, p. 60.

BRILLIÉ (H.). — **Coussinets pour paliers d'ess** de chemins de fer étudiés par la Société Générale thermos. (1 500 mots & fig.)

La Technique moderne. (Paris.)

1939 **621 .131.3 (**

La Technique moderne, n° 13, 1er juillet, p. 482.

Les **locomotives françaises expérimentales.** (mots & fig.)

1939 **625**

La Technique moderne, n° 14, 15 juillet, p. 516.

CAUVY (J.). — Le transport, par voie ferrée, **denrées périssables** sous régime de température dir (3 400 mots.)

939 **625 .143.2**
Technique moderne, n° 14, 15 juillet, p. 521.
AUVY (J.). — La fabrication des **rails martensiti-**
s. (800 mots & fig.)

Le Rail. (Bruxelles.)

939 **385. (09.3 (.493)**
Rail, 15 juin, p. 3.
VIENER (L.). — Les anciennes compagnies de che-
is de fer. I. — Le **Grand Central belge.** (Suite).
000 mots & fig.)

939 **621 .431.72 (.493)**
Rail, 15 juin, p. 7.
IENNIG (E.). — Les **autorails** de la S. N. C. F. B.
les résultats d'exploitation auxquels ils ont donné
u. (500 mots & tableaux.)

939 **656 .211.7 (.42 + .493)**
Rail, 15 juin, p. 13.
ROBIJN (H.). — Le **ferry-boat** Zeebrugge-Harwich.
500 mots & fig.)

Les transports modernes. (Paris.)

1939 **621 .135.2 & 625 .214**
s transports modernes, mars, p. 37.
HAGUENAUER. — Etude des **organes de liaison**
re les essieux montés et le châssis des véhicules de
mins de fer. (5 700 mots & fig.)

1939 **656 .222.1 & 656 .25**
s transports modernes, mars, p. 41.
WOODBRIDGE (A. W.). — Considérations sur la
esse des trains en relation avec la **signalisation.**
000 mots & fig.)

1939 **621 .33 (.494)**
s transports modernes, mai, p. 57/1.
ZEHNDER (R.). — L'**électrification** du chemin de fer
crémaillère de Glion aux Rochers de Naye. (3 500
ts & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **656 .1 (.65)**
nd. des voies ferrées et des tr. autom., mai, p. 131.
ROUX (E.). — Les **chemins de fer sur routes** d'Al-
ie. (Réseau départemental de transport de la région
éroise). (3 300 mots & fig.)

L'Ossature métallique. (Bruxelles.)

1939 **62. (01 & 721**
Ossature métallique, juin, p. 295.
LAZARIDES (T.). — **Flèches des portiques et cadres.**
800 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1939 **385 .1**
Revue Générale des chemins de fer, juillet, p. 3.
LEVY (P.). — L'équilibre financier d'une **exploita-**
tion ferroviaire. (1 400 mots & fig.)

1939 **385 (.44)**
Revue Générale des chemins de fer, juillet, p. 9.
CHATEL. — La **normalisation** et l'**unification** à la Société Nationale des Chemins de fer français. (3 400 mots & fig.)

1939 **656 .231 (.44)**
Revue Générale des chemins de fer, juillet, p. 17.
REURE & MAUGUIN. — **Allégement des voitures métalliques de banlieue** de la Région Sud-Est. (1 500 mots & fig.)

1939 **621 .132.5 (.44)**
Revue Générale des chemins de fer, juillet, p. 23.
LENTZ & METZLER. — La **locomotive « Santa Fé » (1-5-1)** de la Région de l'Est de la Société Nationale des Chemins de fer français. (3 600 mots & fig.)

1939 **625 .113**
Revue Générale des chemins de fer, juillet, p. 33.
DONIZEAU. — Emploi de la **méthode des flèches** dans les traversées de gare. (1 500 mots & fig.)

1939 **656 .213 (.44)**
Revue Générale des chemins de fer, juillet, p. 39.
Aménagements et agrandissements de la **gare maritime de Calais.** (800 mots & fig.)

1939 **621 .135.4**
Revue Générale des chemins de fer, juillet, p. 42.
Quelques observations au sujet du mouvement de lacet des **locomotives en courbe.** (5 800 mots & fig.)

1939 **621 .431.72 (.489)**
Revue Générale des chemins de fer, juillet, p. 58.
Les **autorails danois.** (2 200 mots & fig.)

Revue politique et parlementaire. (Paris.)

1939 **385 .113**
Revue politique et parlementaire, juillet, p. 140.
DIVISIA (F.). — Les **Chemins de fer** en 1938. (6 700 mots.)

Revue universelle des Mines. (Liége.)

1939 **62. (01 & 621 .392**
Revue universelle des mines, juillet, p. 345.
CAMPUS (F.) & LOUIS (H.). — Le **contrôle radiographique** des constructions soudées. (11 700 mots & fig.)

In German.

Der Bahn- Ingenieur. (Berlin.)

1939 **62.** (01

Der Bahn-Ingenieur, Nr. 28, 9. Juli, S. 483.

SICKERT (G.). — Die **Brinell-, Rockwell- und Vickersprüfung.** — Eine Gegenüberstellung. (2 200 Wörter & Abb.)

1939 **625** .144.2

Der Bahn-Ingenieur, Nr. 28, 9. Juli, S. 487.

KATTNER (E.). — Praktische Erfahrungen beim Setzen von Lehrschienen in **Gleisbogen** bei Ausführung von Gleis- und Schwellenerneuerungen. (2 800 Wörter & Abb.)

Die Lokomotive. (Berlin.)

1939 **621** .132.8

Die Lokomotive, Juli, S. 105.

KINKELDEI (L.). — **Dampflokomotive mit Velox-kessel.** (700 Wörter.)

1939 **621** .132.6

Die Lokomotive, Juli, S. 107.

MEYER (E.). — **Breitspur-Tender-Lokomotiven** für Hafenanlagen. (600 Wörter, 1 Tabel & Abb.)

1939 **621** .132.5 (.73)

Die Lokomotive, Juli, S. 108.

Grosse amerikanische **Güterzug-Lokomotiven.** (1 500 Wörter & Abb.)

1939 **621** .132.8 (.45)

Die Lokomotive, Juli, S. 113.

Lokomotive mit Abwärmeverwertung Bauart Franco der italienischen Staatsbahnen. (900 Wörter & Abb.)

Die Reichsbahn. (Berlin.)

1939 **659.** (.43)

Die Reichsbahn, Heft 26, 28. Juni, S. 650.

THOMAS. — 5 Jahre **Reichsbahn-Werbeamt** für den Personen- und Güterverkehr. (4 800 Wörter & Abb.)

1939 **385** .517.7 (.43)

Die Reichsbahn, Heft 27, 5. Juli, S. 673.

MOHLER (K.). — **Wohnungsverwaltung** der Reichsbahn. (5 000 Wörter.)

1939 **656** .222.1 (.43)

Die Reichsbahn, Heft 27, 5. Juli, S. 678.

Verkehr und **Betrieb.** (400 Wörter.)

1939 **385.** (.43)

Die Reichsbahn, Heft 28, 12. Juli, S. 702.

KITTEL (Th.). — Das neue **Reichsbahngesetz.** (1 600 Wörter.)

1939 **625** .162 (.

Die Reichsbahn, Heft 28, 12. Juli, S. 704.

GENRICH & VOGEL. — Das **Gesetz über Kreuz**gen von Eisenbahnen und Strassen. (10 600 Wörter.)

1939 **621** .392 &

Die Reichsbahn, Heft 29/30, 19/26. Juli, S. 732.

SCHAPER (G.). — Das **Schweissen im Brücken**l **und im Ingenieurhochbau.** (15 000 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1939 **621** .131.2 (.

Glasers Annalen, Heft 11, 1. Juni, S. 132.

NORDMANN (H.). — Neuere Entwicklungslinien **Dampflokomotivbau.** (8 800 Wörter.)

1939 **625** .23 (.

Glasers Annalen, Heft 11, 1. Juni, S. 139.

WIENS (G.). — Entwicklung und Fortschritt **Personenwagenbau** der Deutschen Reichsbahn. (8 Wörter & Abb.)

1939 **621** .431.72 (.

Glasers Annalen, Heft 11, 1. Juni, S. 147.

STROEBE & HÜTTEBRÄUCKER. — Neuere E wicklung der **Verbrennungstriebwagen** bei der De schen Reichsbahn. (4 000 Wörter & Abb.)

1939 **625** .24 (.

Glasers Annalen, Heft 11, 1. Juni, S. 155.

KÖPKE (L.). — Neuere Entwicklungsrichtungen **Güterwagenbau.** (4 100 Wörter & Abb.)

1939 **625** .25 (.

Glasers Annalen, Heft 11, 1. Juni, S. 158.

SCHRÖDER (E.). — Neuerungen auf dem Gebiet **Bremswesens.** (2 800 Wörter & Abb.)

1939 **625** .

Glasers Annalen, Heft 12, 15 Juni, S. 167.

BENNEDICK (K.). — Der **Spannungsverlauf** Achshalterausschnitt der Schienenfahrzeuge. (8 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwese (Berlin.)

1939 **625** .

Organ für die Fortschr. des Eisenbahnw., Heft 13 Juli, S. 243.

KALL (H.). — Das Verhalten von **Drehgestellwa** mit Wiegen in Gegenbögen. (10 300 Wörter & Abb.)

1939 **625** .

Organ für die Fortschr. des Eisenbahnw., Heft 13, 1. J S. 256.

HEUMANN. — Liechtys Studien und Messungen **Bogenläufigkeit von Eisenbahnfahrzeugen.** (1 900 W ter & Abb.)

939 621 .135.4
an für die Fortschr. des Eisenbahnw., Heft 13, 1. Juli, S. 259.
EUMANN. — Besprechung der Untersuchungen G. Borgeaud über den **Bogenlauf von Eisenbahnrzeugen** mit Treibachsen. (2 400 Wörter.)

Verkehrstechnische Woche. (Berlin.)

939 656 .212.7
rkehrstechniche Woche, Heft 26, 28. Juni, S. 301.
ISCHER (W.). — Wie gross ist die Breite der nen von Eisenbahnstückgutumladeanlagen zu bessen ? (2 600 Wörter & Abb.)

939 621 .33 (.6)
rkehrstechniche Woche, Heft 26, 28. Juni, S. 306; Heft 27, 5. Juli, S. 316.
CHWARZ (K.). — Wirtschaftliche und geografische Grundlagen für den Entwurf von **elektrischen nen** für die deutschen Kolonialgebiete in Afrika. 000 Wörter & Abb.)

939 385. (09.3 (.492)
rkehrstechniche Woche, Heft 28, 12. Juli, S. 325.
OVERMANN. — **Hundert Jahre Eisenbahnen** in den derlanden. (2 900 Wörter & Abb.)

939 385. (.43)
rkehrstechniche Woche, Heft 29/30, 19/26. Juli, S. 341.
INGER. — Das neue **Reichsbahngesetz.** (9 000 Wör-)

eitschrift des Vereines deutscher Ingenieure (Berlin.)

939 621 .9
tsch. des Ver. deutsch. Ing., Nr. 25, 24. Juni, S. 741.
EGNER (K.). — Die **Werkzeugmaschine.** (6 400 rter & Abb.)

939 62. (01
tsch. des Ver. deutsch. Ing., Nr. 25, 24. Juni, S. 749.
ÜRTLER (G.) & SCHMID (E.). — Temperaturabgigkeit der **Dauerbewährung metallischer Werkffe** bei ruhender und wechselnder Beanspruchung. 200 Wörter & Abb.)

939 62. (01
tsch. des Ver. deutsch. Ing., Nr. 25, 24. Juni, S. 758.
estimmung der **Dauerstandfestigkeit** nach verschieen Verfahren. (1 400 Wörter & Abb.)

939 625 .2 : 625 .62
tsch. des Ver. deutsch. Ing., Nr. 28, 15. Juli, S. 842
endelerscheinungen an Strassen-Anhängerzügen. Ihre ache und die Mittel zu ihrer Vermeidung. (1 000 rter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 656 .256 (.43)
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew. Nr. 9, 10. Juli, S. 97.
REINGRUBER (H.). — Das sächsische **Blocksystem.** (5 000 Wörter.)

1939 656 .256 (.436)
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew. Nr. 9, 10. Juli, S. 104.
BIESOK (W.). — Die **Sicherungs- und Streckenblockanlagen** österreichischer Bauart. (1 300 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 385. (.43)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 25, 22. Juni, S. 501.
SCHMIDT (W.). — Die **Deutsche Reichsbahn** im Sudetengau. (15 700 Wörter.)

1939 385. (09.3 (.497.2)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 26, 29. Juni, S. 525.
SGUREFF (G.). — **Das fünfzigjährige Bestehen** der Bulgarischen Staatseisenbahnen (1888-1938). (5 000 Wörter & Abb.)

1939 625 .42 (.43)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 27, 6. Juli, S. 539.
GRABSKI. — Die Berliner **Nordsüd-S-Bahn.** (9 800 Wörter & Abb.)

1939 385 .113 (.42)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 28, 13. Juli, S. 561.
WERNEKKE. — Die **britischen Eisenbahnen** im Jahre 1938. (5 000 Wörter.)

In English.

Electrical Industries. (London.)

1939 621 .31
Electrical Industries, July, p. 290.
BELBIN (R.-R.). — **Transformer and regulator overhauls.** (1 600 words & fig.)

Engineer. (London.)

1939 669 .1
Engineer, No. 4353, June 16, p. 749.
DADSWELL (C. J.) and WALKER (T. R.). — **Dry-sand practice for steel castings.** (5 500 words, tables & fig.)

1939 **621 .89**
Engineer, No. 4354, June 23, p. 761.
CLAYTON (D.) and WILKIE (M. J.). — **An investigation of the Warlop bush.** (3 300 words & fig.)

1939 **621 .434**
Engineer, No. 4354, June 23, p. 765.
DAVID (W. T.). — **The influence of speed on heat loss in petrol engines.** (2 000 words.)

1939 **624. (0 & 694**
Engineer, No. 4354, June 23, p. 774.
« **Connector** » **joints** for heavy timber construction. (3 800 words & fig.)

1939 **669. (06**
Engineer, No. 4354, June 23, p. 779.
The compounding of alloys. (4 700 words.)

1939 **656 .212.6 (.68)**
Engineer, No. 4355, June 30, p. 787.
New floating dock for Durban. (2 400 words & fig.)

1939 **62. (01 & 669 .1**
Engineer, No. 4355, June 30, p. 793.
Fatigue in riveted and welded steel. (2 600 words.)

1939 **621 .33 (.42)**
Engineer, No. 4355, June 30, p. 803.
The Southern Railway **new electrified extension.** (1 200 words & fig.)

1939 **625 .1 (.71 + .73)**
Engineer, No. 4355, June 30, p. 808.
ROBERTSON (V. A. M.). — **Civil engineering works** on American and Canadian Railways. (4 600 words & fig.)

1939 **62. (01 & 627 .82**
Engineer, No. 4356, July 7, p. 2.
HOUK (I. E.). — **Stress conditions** in a high multiple-arch dam. (3 200 words, tables & fig.)

1939 **621 .132.3 (.54)**
Engineer, No. 4356, July 7, p. 16.
« **Pacific** » **locomotives** on Indian Railways. (2 800 words.)

1939 **621 .335 (.44) & 621 .432.72 (.44)**
Engineer, No. 4356, July 7, p. 18.
Oil-electric railcars for the S. N. C. F. (1 100 words & fig.)

1939 **621 .392 (.44) & 624 .62 (.44)**
Engineer, No. 4357, July 14, p. 30.
The Paris-Neuilly **welded bridge.** (2 500 words & fig.)

1939 **621 .335 (.494)**
Engineer, No. 4357, July 14, p. 38.
A 12,000 h. p. electric locomotive. (2 700 words & fig.)

1939 **621 .132.3 (.**
Engineer, No. 4357, July 14, p. 43.
Standard locomotives on standard permanent w
(1 700 words.)

1939 **621 .431.72 (.**
Engineer, No. 4357, July 14, p. 45.
L. M. S. **oil electric shunting locomotive.** (1 500 wo
& fig.)

1939 **62. (01 & 669**
The Metallurgist, p. 33, supplt. to the Engineer, June
Corrosion of Iron and Steel. (2 100 words.)

1939 **62. (01 & 621**
The Metallurgist, p. 36, supplt. to the Engineer, June
BLAINEY (A.). — A **polishing machine** for mi
sections. (1 000 words & fig.)

1939 **66**
The Metallurgist, p. 37, supplt. to the Engineer, June
The Sigma phase in Iron-nickel-chromium all
(1 200 words & fig.)

1939 **62. (01 & 621**
The Metallurgist, p. 39, supplt. to the Engineer. June
The electrolytic polishing of iron and steel.
words.)

1939 **62. (01 &**
The Metallurgist, p. 42, supplt. to the Engineer. June
Advances in **microscopy.** (2 400 words & fig.)

1939 **62.**
The Metallurgist, p. 44, supplt. to the Engineer. June
VAN SOMEREN (E.). — Recent developments
spectographic analysis. (2 000 words.)

1939 **62. (01 & 669**
The Metallurgist, p. 46, supplt. to the Engineer, June
Embrittlement of creep-resisting steels at high t
peratures (1 800 words & fig.)

Engineering. (London.)

1939 **621**
Engineering, No. 3831, June 16, p. 709.
High-tension circuit-breakers. (1 900 words & fig.)

1939 **61**
Engineering, No. 3831, June 16, p. 711.
The detection of **toxic gases in industry.** (1
words.)

1939 **621**
Engineering, No. 3831, June 16, p. 723.
WILLIAMS (C. G.) and YOUNG (H. A.). — Pist
ring blow-by on **high-speed petrol engines.** (4 200 wo
& fig.)

)39 669 .1
ineering, No. 3831, June 16, p. 726.
)LBECK (E. W.) and GARNER (R. P.). — **The :t of Nitrogen** additions and heat-treatment on the erties of high-chromium steels. (5 700 words & fig.)

)39 385. (091 (.59)
ineering, No. 3832, June 23, p. 731.
ie **Haiphong-Yunnan Fu Railway.** (2 800 words &

)39 624. (0 & 624 .32
ineering, No. 3832, June 23, p. 734.
ie erection of Callender-Hamilton **unit-construc- bridges.** (3 500 words & fig.)

)39 669. (06
ineering, No. 3832, June 23, p. 750.
ie **International Foundry Congress.** (1 400 words.)

)39 62. (01 & 698
ineering, No. 3832, June 23, p. 760.
ARD (H. D.). — **Recent developments in red lead.**)0 words & fig.)

)39 62. (01 & 669 .1
ineering, No. 3833, June 30, p. 787.
SANSKY (L.). — **Pitting corrosion** of cast-iron steel pipes. (1 200 words & fig.)

)39 62. (01 & 669
ineering, No. 3833, June 30, p. 788.
RAGG (W. L.). — **Atomic pattern of metals.** (3 000 ls.)

)39 621 .9 & 669 .1
ineering, No. 3833, June 30, p. 789.
EENY (H.). — **Cutting tools for cast iron.** (2 200 ls.)

)39 624 .51 (.73)
ineering, No. 3834, July 7, p. 1 and No. 3835, July 14, p. 31.
AINE (C. E.). — **The Golden Gate bridge**, San ncisco. (8 400 words & fig.) (To be continued).

)39 385. (072 (.42)
ineering, No. 3834, July 7, p. 12.
he **laboratories** of the British non-ferrous metals earch Association. (1 500 words & fig.)

)39 621 .9 & 625 .122
ineering, No. 3834, July 7, p. 25.
ost-hole boring machines. (1 200 words.)

)39 533 & 669 .1
ineering, No. 3834, July 7, p. 26.
ONALDSON (J. W.). — The **thermal conductivity** igh-duty and alloy cast irons. (2 500 words, tables g.)

)39 621 .431.72 (.42)
ineering, No. 3835, July 14, p. 52.
0 **b. h. p. diesel-electric shunting locomotive.** (1 600 ls & fig.)

1939 669 .1
Engineering, No. 3835, July 14, p. 56.
DAWSON (W. J.). — **Organisation and development of steel foundry research.** (5 200 words.)

Engineering News-Record. (New York.)

1939 691
Engineering News-Record, No. 25, June 22, p. 61.
KEEFER (R. C.). — **Grouting with a cement gun.** (1 300 words & fig.)

Journal, Institute of Transport. (London.)

1939 38 & 656
Journal, Institute of Transport, July, p. 342.
BILBROUGH (G. F.). — **National aspects of transport.** (16 000 words.)

1939 656 .213 (.42)
Journal, Institute of Transport, July, p. 357.
BIDDLE (R. P.). — **The port of Southampton.** (11 000 words & fig.)

1939 385. (09 (.54)
Journal, Institute of Transport, July, p. 368.
KIRKNESS (L. H.). — **Indian Railways.** (10 500 words & fig.)

1939 656 .213
Journal, Institute of Transport, July, p. 379.
HANNAY-THOMPSON (J. H.). — **Port Administration.** (6 000 words.)

1939 625 .244 (.44)
Journal, Institute of Transport, July, p. 385.
VERLOT (J. B.). — **French Railway refrigerated rolling stock.** (3 900 words.)

Journal, Institution of Engineers, Australia. (Sydney, N. S. W.)

1939 627 .82 (.942)
Journal, Institution of Engineers, Australia, May, p. 161.
FARRENT (Th. A.) and BEANEY (H. L.). — **Tension piles** in the Goolwa Channel Barrage, South Australia. (8 700 words & fig.)

1939 725 .33
Journal, Institution of Engineers, Australia, May, p. 173.
HODGSON (H. J. N.). — **The operation of water treatment plants** with special reference to American and European plants. (11 500 words, tables & fig.)

Journal and Proceedings, Institution of Mechanical Engineers. (London.)

1939 **621 .89**

Journal, Institution of Mechanical Engineers, June, p. 105.

CLAYTON (D.). — Some notes on **oiliness.** (5 800 words.)

1939 **621 .436**

Journal, Institution of Mechanical Engineers, June, p. 289.

LANCHESTER (F. W.). — The energy balance sheet of the **internal combustion engine.** (48 000 words, tables & fig.)

1939 **621 .433 & 621 .435**

Journal, Institution of Mechanical Engineers, June, pp. 363 & 392.

Conference on **coal as fuel for internal combustion engines.** Synopsis and discussion of papers. (40 000 words & fig.)

1939 **621 .431.73 & 621 .433**

Journal, Institution of Mechanical Engineers, June, p. 365.

PIRIE (H. L.). — The present position in **the development of producer gas propulsion for road transport** in Great Britain and on the Continent. (4 000 words.)

1939 **621 .43.73 & 621 .433**

Journal, Institution of Mechanical Engineers, June, p. 368.

FOWKE (W. H.). — **The producer-gas road vehicle.** (2 500 words & fig.)

1939 **621 .433**

Journal, Institution of Mechanical Engineers, June, p. 371.

MONCK (B.). — Some factors influencing the **design of portable gas producers.** (4 700 words & fig.)

1939 **621 .433**

Journal, Institution of Mechanical Engineers, June, p. 375.

GRIGGS (A. R.). — The case for the dry air blast in **gas producers for road vehicles.** (3 400 words.)

1939 **621 .433**

Proceedings, Institution of Mechanical Engineers, June, p. 378.

MACDONALD (Major J. A.). — British coals, suction gas, and modern **internal combustion engines.** (3 600 words.)

1939 **621 .433**

Proceedings, Institution of Mechanical Engineers, June, p. 381.

WALTER (C. M.). — The application of town gas as a fuel for **internal combustion engines.** (5 000 words.)

1939 **621 .433**

Proceedings, Institution of Mechanical Engineers, June, p. 386.

ERREN (R. A.). — A new injection system for **gas engines.** (1 800 words & fig.)

1939 **621**

Proceedings, Institution of Mechanical Engineers, p. 389.

GIBBONS (F.). — **Gas engines** as an aid to further utilization of coal for marine purposes. (words & fig.)

London & North Eastern Railway Magazi (London.)

1939 **621**

London & North Eastern Railway Magazine, Jul 382.

TRASK (E. D.). — **Speed indicators and recor** (600 words & fig.) (To be continued.)

Mechanical Engineering. (New York.)

1939 **621 .43**

Mechanical Engineering, July, p. 525.

BOCHET (M.). — **Internal-combustion-engine d** in Europe. (3 400 words & fig.)

Modern Transport. (London.)

1939 **385. (091**

Modern Transport, No. 1057, June 17, p. 3.

SZLUMPER (G. S.). — **What the Southern achieved ?** Progress during the last ten years. (words.)

1939 **725 .3**

Modern Transport, No. 1057, June 17, p. 5.

Design in stations and signal boxes. (Figures.)

1939 **656 .23**

Modern Transport, No. 1057, June 17, p. 6.

MISSENDEN (E. J.). — **Encouraging passenger freight traffic.** (3 200 words & fig.)

1939

Modern Transport, No. 1057, June 17, p. 9.

LUFF (W.). — **Place and function of comm transport.** (3 000 words.)

1939 **621 .33**

Modern Transport, No. 1057, June 17, p. 11.

RAWORTH (A.). — New methods in **railway trification.** (1 900 words & fig.)

1939 **656.**

Modern Transport, No. 1057, June 17, p. 12.

Transport in Latin America. **Co-ordination in A tina.** (1 000 words.)

1939 **656 .212 (.42) & 725 .3**

Modern Transport, No. 1057, June 17, p. 13.

ELLSON (G.). — **Modern engineering** on the thern. Reconstruction of passenger stations and depots. (1 100 words & fig.).

39 **656 .234 (.42) & 656 .237.2 (.42)**
rn Transport, No. 1057, June 17, p. 18.
OOKS (G. H.). — **Fare-collection and ticket-g machines.** (3 400 words.)

39 **656 .257 (.42)**
rn Transport, No. 1057, June 17, p. 21.
ver signalling on Southern Railway. Two cabins ee eight. (2 800 words & fig.)

39 **656 .211.7 (.42)**
rn Transport, No. 1057, June 17, p. 23.
ss-channel services. The Southern railway fleet.) words & fig.)

39 **656 .213 (.42)**
rn Transport, No. 1057, June 17, p. 25.
DDLE (R. P.). — **Progress of Southampton docks.**) words & fig.)

39 **621 .13 (.42) & 625 .2 (.42)**
rn Transport, No. 1057, June 17, p. 26.
LLEID (O. V.). — **Locomotive and rolling stock n.** (2 300 words & fig.)

39 **388. (.42)**
rn Transport, No. 1058, June 24, p. 3.
KER (P. J.). — **Transport and the municipality.**) words & fig.)

39 **656 .253 (.42) & 656 .257 (.42)**
rn Transport, No. 1058, June 24, p. 5.
ılour-light signalling on L. N. E. R. (800 words &

39 **656 .132 (.42)**
rn Transport, No. 1058, June 24, p. 7.
om the Mersey to the Solway. No. 2. **Coaching and use of stations.** (1 700 words & fig.)

39 **656 .132 (.42)**
rn Transport, No. 1058, June 24, p. 9.
AHAM (W. W.). — **Serving the Hampshire Coast.** 0 words & fig.)

39 **656 .135 (.42)**
rn Transport, No. 1058, June 24, p. 11.
ods transport in the South of England. (1 100 s & fig.)

39 **621 .33 (.42)**
rn Transport, No. 1059, July 1, p. 3 and No. 1060, July 8, p. 5.
rther electrification of Southern Railway. Redisign-ıbstations : new rolling stock. (6 800 words & fig.)

939 **656 .1 (06 (.42)**
rn Transport, No. 1059, July 1, p. 5.
ınicipal Passenger Transport Association. (4 400 ls.)

39 **656 .132 (.42)**
rn Transport, No. 1059, July 1, p. 12.
ıs organisation in the Brighton area. (1 700 words r.)

1939 **656 .23 (.42)**
Modern Transport, No. 1059, July 1, p. 15.
SILVERS (C. O.). — **Problem of workmen's fares.** (2 700 words.)

1939 **629 .113.62 (.42)**
Modern Transport, No. 1060, July 8, p. 3.
Chassisless trolleybuses for London Transport. (1 200 words & fig.)

1939 **629 .113.5 (.42)**
Modern Transport, No. 1060, July 8, p. 12.
New range of Bedford vehicles. Three alternative axles available. (1 300 words & fig.)

1939 **625 .42 (.42)**
Modern Transport, No. 1060, July 8, p. 13.
Tube extension to East Finchley. (2 000 words & fig.)

1939 **656 .135 (.42)**
Modern Transport, No. 1060, July 8, p. 15.
Express delivery in Lancashire. Well-planned maintenance system. (2 600 words & fig.)

1939 **656 .7 (.489)**
Modern Transport, No. 1060, July 8, p. 17.
Air-transport in Denmark. New airport at Copenhagen. (2 200 words & fig.)

1939 **656 .211.7 (.42) & 699. (.42)**
Modern Transport, No. 1061, July 15, p. 3.
New motorship for L. M. S. Irish service. Special arrangements for motor-car traffic. (1 100 words & fig.)

1939 **385 .1 (.42)**
Modern Transport, No. 1061, July 15, p. 6.
Railways in Great Britain. Survival of competition. American comparisons. (800 words.)

1939 **621 .431.72 (.42)**
Modern Transport, No. 1061, July 15, p. 7.
Diesel-electric shunting locomotives for L. M. S. under construction at Derby Works. (1 100 words & fig.)

1939 **656 .135 (.42)**
Modern Transport, No. 1061, July 15, p. 12.
Co-operation between express carriers. Discussion at national conference. (2 000 words.)

1939 **656 .132 (.42)**
Modern Transport, No. 1061, July 15, p. 13.
Bus operation in the Isle of Wight. Problems of peak traffic. (2 400 words & fig.)

1939 **621 .132.3 (.54)**
Modern Transport, No. 1061, July 15, p. 15.
Pacific locomotives in India. (3 200 words & fig.)

Proceedings, American Society of Civil Engineers. (New York.)

1939 **721 .9**
Proceedings, American Society of Civil Engineers, No. 6, June, p. 969.
Wind bracing in steel buildings. (11 500 words, tables & fig.)

Railway Age. (New York.)

1939 **621 .134.3 (.73)**
Railway Age, No. 24, June 17, p. 1019.
Poppet valve gear for steam locomotives in America. (2 400 words & fig.)

1939 **385 .571 (.73)**
Railway Age, No. 24, June 17, p. 1026.
The making of a Railway Officer. (5 300 words.)

1939 **725 .35 (.73)**
Railway Age, No. 24, June 17, p. 1031.
Air-conditioning for perishable produce. (3 100 words.)

1939 **621 .139 (.73) & 625 .27 (.73)**
Railway Age, No. 24, June 17, p. 1033.
Railway supply forces renew war on waste. (12 000 words.)

1939 **656 .212.7 (.73)**
Railway Age, No. 25, June 24, p. 1064.
Grand trunk rebuilds its l. c. l. facilities at Milwaukee. (1 500 words & fig.)

1939 **621 .132.3 (.73) & 621 .132.8 (.73)**
Railway Age, No. 25, June 24, p. 1067.
High-capacity locomotive for fast service. (4 200 words & fig.)

1939 **385. (091 (.73) & 385 .11 (.73)**
Railway Age, No. 25, June 24, p. 1076.
More net on less gross. — Despite loss of six-sevenths of its traffic, Rio Grande Southern shows a net gain from economical operation. (2 800 words & fig.)

1939 **625 .235 (.73)**
Railway Age, No. 25, June 24, p. 1080.
Polarised **sight-conditioning windows.** (500 words & fig.)

1939 **621 .133.2 (.73)**
Railway Age, No. 25, June 24, p. 1082.
Duo-cast locomotive grates tested. (500 words & fig.)

1939 **621 .5**
Railway Age, No. 25, June 24, p. 1083.
New type of radiation for **air compressors.** (500 words.)

1939 **385. (061.4 & 621 .13 (06 (**
Railway Age, No. 1, July 1, p. 5.
Mechanical Division holds three-session meeting New York. Reports of thirteen standing committ presented. — Division aggressively pushing **deve ment of high-speed and high-capacity motive power freightcar trucks for higher-speed service.** (35 000 w & fig.)

1939 **625 .14 (01 & 625 .1**
Railway Age, No. 1, July 1, p. 37.
TALBOT (Dr. A. N.). — More about **rail joints.** (4 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **625 .142.2 (.73) & 625 .173 (**
Railway Engineering and Maintenance, July, p.
How the Great Northern cuts tie renewal costs 30 (4 000 words & fig.)

1939 **625 .141 (.73) & 625 .144.4 (**
Railway Engineering and Maintenance, July, p.
Grouts ballast for better roadway support. (2 words & fig.)

1939
Railway Engineering and Maintenance, July, p.
Stepping up efficiency in **timber-trestle work.** (words & fig.)

1939 **721 .6 (**
Railway Engineering and Maintenance, July, p.
Treated black gum highway crossings. (1 200 w & fig.)

1939 **621 .138.2 (**
Railway Engineering and Maintenance, July, p.
CATHCART (W. E.). — **Keeping fires out of coa stations.** (1 800 words & fig.)

1939 **625 .144.4 (**
Railway Engineering and Maintenance, July, p.
Norfolk & Western builds **ramp for unloading v equipment.** (1 100 words & fig.)

1939 **625**
Railway Engineering and Maintenance, July, p.
Moving the right of way. — What is the most p tical and economical method of moving the righ way. (1 800 words.)

1939
Railway Engineering and Maintenance, July, p.
How soon to paint after a rain. (1 200 words.)

1939 **625**
Railway Engineering and Maintenance, July, p.
How to remove a tie. (1 100 words.)

39 625 .172
vay Engineering and Maintenance, July, p. 425.
w much to raise track. (1 100 words.)

39 625 .144.4
vay Engineering and Maintenance, July, p. 426.
ercoming mill tolerances when laying rail. (800 s.)

Railway Gazette. (London.)

39 656 .222.1 (.42)
vay Gazette, No. 24, June 16, p. 968.
e mile-a-minute standard. (1 100 words & 1 table.)

39 385 .14 (.42)
vay Gazette, No. 24, June 16, p. 976.
ilway rates tribunal. — Comprehensive statement Sir William Wood on railway developments since (3 500 words & tables.)

39 656. (06 (.42)
vay Gazette, No. 24, June 16, p. 979.
e Institute of Transport at Southampton. (1 000 s & fig.)

39 656 .253 (.42) & 656 .257 (.42)
vay Gazette, No. 24, June 16, p. 982.
signaling between Northallerton and Darlington, . E. R. (900 words & fig.)

39 621 .138.5 (.42) & 621 .5 (.42)
vay Gazette, No. 24, June 16, p. 986.
mpressed air in locomotive workshops. (1 300 words g.)

39 656 .212.6 (.42)
way Gazette, No. 24, June 16, p. 989.
ARSTANG (E. G.). — Terminal handling of fuel mineral, etc., traffic. (1 400 words & fig.)

39 625 .1 (.43 + .494)
way Gazette, No. 25, June 23, p. 1016.
ie Basle connecting line. (1 500 words & 1 map.)

39 621 .132.3 (.73)
way Gazette, No. 25, June 23, p. 1017.
ew Atlantic Coast 4-8-4 locomotives. (900 words &

939 625 .216 (.42) & 625 .243 (.42)
way Gazette, No. 25, June 23, p. 1021.
xperimental shock-absorbing wagons, Great Western way. (800 words.)

939 625 .214
way Gazette, No. 25, June 23, p. 1021.
stification for use of roller bearings. (400 words.)

939 625 .235 (.42)
way Gazette, No. 25, June 23, p. 1022.
ailway vehicle accessories. (300 words & fig.)

1939 625 .1 & 625 .62
Railway Gazette, No. 25, June 23, p. 1027.
The railway-tramway junction at Charlton Works. (1 000 words & fig.)

1939 385 .586 (.42) & 656 .135 (.42)
Railway Gazette, No. 25, June 23, p. 1029.
New Great Western Railway school for motor drivers. (660 words & fig.)

1939 656 .132 (.42) & 725 .3 (.42)
Railway Gazette, No. 25, June 23, p. 1031.
Bus and coach shelters. (600 words & fig.)

1939 629 .113 (.485)
Railway Gazette, No. 25, June 23, p. 1032.
Modern Oslo rolling stock. (500 words & fig.)

1939 656. (06 (.42)
Railway Gazette, No. 25, June 23, p. 1038.
Institute of Transport Congress at Southampton. (4 800 words.)

1939 385. (093 (.42)
Railway Gazette, No. 26, June 30, p. 1059.
EDWARDS (K. C.). — The Nottingham and Derby Railway, 1839. (1 700 words & 1 map.)

1939 621 .133.5 (.42)
Railway Gazette, No. 26, June 30, p. 1061.
New blast arrangements on Southern Railway locomotives. (300 words & fig.)

1939 656 .257 (.42)
Railway Gazette, No. 26, June 30, p. 1063.
Resignalling of Victoria Station, Southern Railway. (2 800 words & fig.)

1939 656 .222.1 (.45)
Railway Gazette, No. 26, June 30, p. 1074.
Remarkable Italian acceleration achievement. (1 400 words & fig.)

1939 621 .132.3 (.54) & 656 .28 (01 (.54)
Railway Gazette, No. 1, July 7, p. 12.
Indian Pacific Locomotive Committee report. (4 500 words.)

1939 625 .176 (.42)
Railway Gazette, No. 1, July 7, p. 17.
CHAPMAN (W. G.). — Beginning of the gauge controversy. (2 100 words.)

1939 656 .25 (0 & 656 .259
Railway Gazette, No. 1, July 7, p. 19.
TOWERS (H. C.). — Signal sighting in difficult locations. (1 000 words.)

1939 621 .132.3 (.81)
Railway Gazette, No. 1, July 7, p. 20.
4-8-2 type locomotives for Brazil. (700 words.)

1939 **625 .232 (.44)**
Railway Gazette, No. 1, July 7, p. 20.
Coaches convertible as ambulances. (200 words & fig.)

1939 **621 .94 (.42)**
Railway Gazette, No. 1, July 7, p. 22.
A new railway wheel lathe. (700 words & fig.)

1939 **656 .259 (.44)**
Railway Gazette, No. 1, July 7, p. 23.
Detecting train movements by radio. (500 words & fig.)

1939 **625 .232 (.54)**
Railway Gazette, No. 1, July 7, p. 24.
New passenger carriages, North Western Railway, India. (900 words & fig.)

1939 **625 .236 (.42)**
Railway Gazette, No. 1, July 7, p. 26.
A new pressure and vacuum cleaning plant. (600 words & fig.)

1939 **625 .14**
Railway Gazette, No. 2, July 14, p. 45.
Railway track for high speeds. (1 500 words.)

1939 **625 .143.3**
Railway Gazette, No. 2, July 14, p. 46.
Broken rails. (900 words.)

1939 **625 .143.3**
Railway Gazette, No. 2, July 14, p. 52.
Steel rail failures. (5 000 words & fig.)

1939 **623. (.42)**
Railway Gazette, No. 2, July 14, p. 57.
Kearney **tubes as air raid shelters.** (1 000 words & fig.)

1939 **656 .224 (.68)**
Railway Gazette, No. 2, July 14, p. 59.
Special train working extraordinary in South Africa. (700 words.)

1939 **621 .338 (.42) & 625 .216 (.42)**
Railway Gazette, Na. 2, July 14, p. 60.
Automatic couplers for electric stock. (1 900 words & fig.)

1939 **621 .138.5 (.44)**
Railway Gazette, No. 2, July 14, p. 62.
Lifting locomotives for repair work. (700 words & fig.)

1939 **625 .1 (.55)**
Railway Gazette, No. 2, July 14, p. 64.
The Trans-Iranian Railway. (400 words & fig.)

1939 **621 .431.72 & 656 .22**
Diesel Railway Traction, p. 102, supplt. to the Railway Gazette, July 7.
The improvement of services by **railcars.** (3 000 words & tables.)

1939 **621 .431.72 (.44) & 656 .22 (**
Diesel Railway Traction, p. 105, supplt. to the Rail Gazette, July 7.
Long distance **cross-country service** in France. (1 words & fig.)

1939 **621 .43**
Diesel Railway Traction, p. 109, supplt. to the Rail Gazette, July 7.
Oil-engined shunter with modern transmission. words & fig.)

1939 **625 .232 (.54) & 625 .234 (**
Diesel Railway Traction, p. 110, suppl. to the Rail Gazette, July 7.
Air-conditioned cars for India. (1 000 words &

1939 **621 .431.72 (**
Diesel Railway Traction, p. 111, supplt. to the Rail Gazette, July 7.
Luxury diesel trains for South America. (2 000 w & fig.)

1939 **621 .431.72 & 625**
Diesel Railway Traction, p. 114, supplt. to the Rail Gazette, July 7.
The **heating of railcars and diesel trains.** (800 wo

1939 **621 .431.72 (**
Diesel Railway Traction, p. 115, supplt. to the Rail Gazette, July 7.
Railcars for light provincial traffic. (900 word fig.)

Railway Magazine. (London.)

1939 **625 .3 (**
Railway Magazine, No. 505, July, p. 1.
LEE (Ch. E.). — **Swannington : one time rail centre.** (5 100 words & fig.)

1939 **621 .431.72 (**
Railway Magazine, No. 505, July, p. 10.
The Great Western Railway **diesel railcars.** (words & fig.)

1939 **656 .222.1 (**
Railway Magazine, No. 505, July, p. 14.
ALLEN (C. J.). — **British locomotive practice performance.** Great Western Railway 2-6-2 tank en (5 000 words & fig.)

1939 **621 .13 (**
Railway Magazine, No. 505, July, p. 25.
GILLFORD (F. H.). — **The locomotives of the G Central Railway.** (2 000 words & fig.)

1939 **625 .1 (**
Railway Magazine, No. 505, July, p. 34.
HEWITT (J. D.). — **Some notable British main l** — I. Settle and Carlisle, L. M. S. R. (4 200 words &

939 **656** .222.1 (.481)
way Magazine, No. 505, July, p. 43.
comotives and their performance in Norway. (3 000 ls & fig.)

---

ailway Mechanical Engineer. (New York.)

939 **385.** (064 (.73)
way Mechanical Engineer, June, p. 213.
ıe Railroads at the New York World's Fair. (Fi- s.)

---

939 **621** .94 (.73)
way Mechanical Engineer, June, No. 240.
ıproved high-production turret lathes. (1 300 words g.)

Railway Signaling. (Chicago.)

939 **625** .162 (.73) & **656** .259 (.73)
way Signaling, July, p. 377.
OFFMAN (W. A.). — **Crossing signals** on Florida Coast. (1 700 words & fig.)

---

939 **656** .257 (.73)
way Signaling, July, p. 380.
ew interlocking at Los Angeles. (6 000 words & fig.)

---

939 **656** .257 (.73)
way Signaling, July, p. 388.
ission Tower interlocking at Los Angeles. (5 800 ls & fig.)

The Locomotive. (London.)

939 **621** .13 (0
Locomotive, No. 563, July 15, p. 187.
ocomotive Department liaisons. (1 400 words.)

---

939 **656** .222 (.42)
Locomotive, No. 563, July 15, p. 190.
N. E. R. Pulman services. (1 700 words & fig.)

---

939 **625** .234 (.42) & **625** .235 (.42)
Locomotive, No. 563, July 15, p. 192.
oise reduction and improved ventilation. (400 words g.)

---

939 **625** .2 (0 & **625** .215
Locomotive, No. 563, July 15, p. 196.
ANDERS (L. I.). — **Carriage and wagon design and truction.** — III. The bogie. (1 800 words & fig.)

---

939 **621** .135.4 (.68) & **625** .22 (.68)
Locomotive, No. 563, July 15, p. 199.
xperimental determination of the **overturning speeds ailway vehicles on curves.** (1 700 words, table & fig.)

---

939 **385.** (093 (.42)
Locomotive, No. 563, July 15, p. 203.
he centenary of the Eastern Counties Railway 00 words.)

1939 **621** .13 (093 (.42)
The Locomotive, No. 563, July 15, p. 209.
Two ancient « Fliers ». (2 400 words & fig.)

The Oil Engine. (London.)

1939 **621** .431.72 (.42)
The Oil Engine, No. 75, July, p. 70.
What British **rolling stock makers** are doing. (2 600 words & fig.)

1939 **621** .434 & **621** .436
The Oil Engine, No. 75, July, p. 74.
Pressure-charging for rail traction engines. (1 300 words & fig.)

1939 **621** .431.72 (.44)
The Oil Engine, No. 75, July, p. 76.
4 400 b.h.p. locomotives in service. (2 000 words & fig.)

1939 **621** .431.72 (.42)
The Oil Engine, No. 75, July, p. 77.
Service results of a new **shunter.** (300 words & fig.)

1939 **313 : 621** .431.72 (.42)
The Oil Engine, No. 75, July, p. 81.
The home railways and **diesel rolling stock.** (700 words & 1 table.)

1939 **621** .431.72
The Oil Engine, No. 75, July, p. 88.
Merits of locomotives, railcars and power houses. (1 100 words & fig.)

1939 **621** .436
The Oil Engine, No. 75, July, p. 89.
An injector cooling system. (800 words & fig.)

1939 **621** .431.72 & **621** .8
The Oil Engine, No. 75, July, p. 93.
Modern **transmission** systems for rail vehicles. (3 000 words & fig.)

1939 **621** .431.72 (.42)
The Oil Engine, No. 75, July, p. 95.
Another 20 **Diesel shunters** for the L.M.S.R. (900 words & fig.)

1939 **621** .431.72 & **621** .8
The Oil Engine, No. 75, July, p. 96.
British-built **Mylius gearboxes.** (1 600 words & fig.)

1939 **385** .586 (.42) & **621** .431.72 (.42)
The Oil Engine, No. 75, July, p. 99.
Training drivers for diesel railcars. (1 300 words & fig.)

1939 **621** .431.72 (.81)
The Oil Engine, No. 75, July, p. 100.
Brazil's latest British-built **diesel trains.** (1 800 words & fig.)

Transit Journal. (New York.)

1939 **656 .132 (.73) & 656 .136 (.73)**
Transit Journal, June, p. 192.
Bus and trolleybus lead in modernization plans. (3 200 words & fig.)

1939 **621 .336 & 625 .1 : 625 .62**
Transit Journal, June, p. 198.
Keeping track and power up to date. (1 300 words & fig.)

1939 **629 .113.62 (.73)**
Transit Journal, July, p. 236.
Wilmington « goes **trolley coach** ». (2 100 words & fig.)

1939 **621 .336 (.73)**
Transit Journal, July, p. 242
JACKSON (W. R.). — **Self-lubricating trolley shoe.** (400 words & fig.)

In Spanish.

Revista del Colegio de Ingenieros de Venezuela. (Caracas-Venezuela.)

1939 **62. (01 & 691**
Rev. del Colegio de Ingenieros de Venezuela, enero-febrero-marzo, p. 351.
ELLENBERG (D.). — **Cálculo de elementos de concreto armado** sometidos a torsión. (2 800 palabras & fig.)

In Italian.

Annali dei lavori pubblici. (Roma.)

1939 **691**
Annali dei lavori pubblici, aprile, p. 364.
SIMONE (Domenico de). — **Conglomerato armato con fili di acciaio ad altissima resistenza.** (2 300 parole & fig.)

La tecnica professionale. (Firenze.)

1939 **621 .335**
La tecnica professionale, luglio, p. 148.
CIOCIA (D.). — **Ingranaggi delle locomotive.** (5 100 parole & fig.)

1939 **621 .335**
La tecnica professionale, luglio, p. 156.
Un nuovo apparecchio di protezione per le locomotive elettriche. (3 200 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Roma.)

1939 **656 .211.5**
Revista tecnica delle ferrovie italiane, 15 giugno, p. 359.
DORATI (S.). — **Impianti di diffusione sonora nelle stazioni ferroviarie.** (11 000 parole & fig.)

1939 **625 .13**
Revista tecnica delle ferrovie italiane, 15 giugno, p.
NAVARETTI. — **I dissesti nelle murature della g**
ria di Monte Adone linea DD. Firenze-Bologna. (
parole & fig.)

1939 **624.**
Revista tecnica delle ferrovie italiane, 15 giugno, p.
SARTORELLI (C.). — La frequenza di vibra
nello studio delle **proprietà elastiche di una tra**
ferroviaria. (4 300 parole & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 **656 .234**
Trasporti e lavori pubblici, maggio, p. 173.
Confronto fra le tariffe ferroviarie viaggiatori principali nazioni europee. (1 quadro.)

1939 **656 .213**
Trasporti e lavori pubblici, giugno, p. 201.
GIORDANO (A.). — I porti di Trieste e di Fium
problemi ferroviari connessi. (2 000 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 **691 & 7**
De Ingenieur, nr 6, 23 Juni, p. Mk. 23.
EMMEN (J.). — Het **beton** als constructiemate
(16 000 woorden & fig.)

1939 **62. (01 &**
De Ingenieur, nr 7, 7 Juli, p. Bt. 51.
EGGINK (A.). — **Beton** aan zee. (3 600 woorde
fig.)

Spoor- en Tramwegen. (Utrecht.)

1939 **621 .13 (09 (.**
Spoor- en Tramwegen, nr 13, 24 Juni, p. 293.
LABRIJN (P.). — De **Rhijnspoor Locomotie**
(4 100 woorden & fig.) (Slot volgt.)

1939 **624 .8 (.**
Spoor- en Tramwegen, nr 13, 24 Juni, p. 299.
FOEST (A. H.). — De **dubbelsporige hefbrug** ove
Ringvaart nabij Heerhugowaard. (1 700 woorden &

1939 **385. (09.3 (.**
Spoor- en Tramwegen, nr 13, 24 Juni, p. 318.
VAN SETTEN (D.). — De **Noord-Brabantsch-**
sche Spoorweg-Maatschappij. (3 800 woorden & fig

1939 **385 .113 (.**
Spoor- en Tramwegen, nr 13, 24 Juni, p. 323.
De **Nederlandsche Spoorwegen** in 1938. (1 700 w
den.)

1939 **385 .1 (**
Spoor- en Tramwegen, nr 13, 24 Juni, p. 330.
PRINS (R.). — De **toestand** der Amerikaan
Spoorwegen. (2 000 woorden & fig.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

OCTOBER 1939

16. 385. (02]

I. — BOOKS.

In French.

39 **53. (02**

OT (A.).

canique des fluides appliquée.

is, Dunod, 92, rue Bonaparte. 4 vol. (13 × 21). : 45 francs français par volume.)

39 **621 .392 & 624 .92**

DEPERRE et JOUKOFF (A.).

calcul des constructions soudées.

xelles, Albert de Boeck; Paris et Liége, Ch. Bér. 1 volume, 275 pages, figures et planches. : 125 francs français.)

In German.

38 **624. (06**

handlungen der Internationalen Vereinigung für kenbau.

rich, Gebr. Leemann & Co. 1 Band, 422 Seiten und dungen. (Preis : 18.80 R.M.)

39 **694**

hnholzfragen, Holzschutz, Holzverarbeitung.

rlin, VDI-Verlag. 1 Band, 120 Seiten, 94 Abbildun- (Preis : 4 R.M.)

39 **621 .131**

Liechtys Lokomotivsystem für grosse Fahrgeindigkeiten und dessen Vorgeschichte. »

rn, Verlag A. Francke. 1 Band, 60 Seiten, 24 Tafeln 109 Abbildungen. (Preis : 5.20 R.M.)

39 **656 .235**

SS (W.).

e Betriebswissenschaft des Eisenbahngütertarifs.

rlin, J. Springer. 1 Band, 88 Seiten. (Preis : R.M.)

39 **385 .(02 (.4)**

ationsverzeichnis der Eisenbahnen Europas (früDr. Kochs Stationsverzeichnis).

rlin, von Barthol & Co. 1 Band, 1050 Seiten. s : 28 R.M.)

In English.

1939 **62 (01 & 621 .7**

American Society for Testing Materials. **Specifications for pipe and piping materials for high-temperature and high-pressure services.**

Philadelphia, Pa. : American Society for Testing Materials, 60 S. Broad street. 128 pages; spiral-ring binding. (Price : $ 1.25.)

1939 **385 .1 (.73)**

CUNNINGHAM (W. J.).

The present railroad crisis.

London : Humphrey Milford, Oxford University Press, Amen House, Warwick Square, E. C. 4. (8 3/4 in. × 5 1/2 in.). 84 pp. (Price : 4 s. 6 d. net.)

1939 **385 (09 (.42)**

FELLOWS (R. B.).

London to Cambridge by train.

Privately printed and distributed. 32 pages (9 1/8 in. × 6 5/8 in.).

1939 **621 .132 .3 (06 (.54)**

Government of India. **Pacific Locomotive Committee Report.**

Delhi : Manager of Publications. (Price : 6 s. 9 d.)

1939 **62 (01 & 624**

HILL (D. Y.).

Bridge calculation and design.

London : Charles Griffin and Co., Ltd. (Price : 25 s.)

1939 **621 .116**

MATTHEWS (F. J.).

Boiler feed water treatment. Second edition, revised and enlarged.

London : Hutchinson's Scientific and Technical Publications. (Price : 12 s. 6 d.)

1939 **621 .431 (02**

ROSBLOOM (J.).

Diesel hand book. Sixth edition.

Jersey City : Diesel Engineering Institute. Leather, (5 × 7 in.), 720 pp., illus., diagrams, charts, tables. (Price : $ 5.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress ointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to way Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 509).

1939 **621 .137 (02 & 621 .138 (02**

SAMS (J. G. B.).

The Locomotive Running Department.

London : The Locomotive Publishing Co. Ltd., 3, Amen Corner, E. C. 4. (8 3/4 in. × 5 3/4 in.), 104 pp., illustrated. (Price : 3 s. 6 d. net.)

1939 **385 (02 & 659**

VAN METRE (T. W.).

Trains, tracks and travel.

New York : The Simmons-Boardman Publishing Corp. 341 pages (9 1/2 in. × 6 1/2 in.). (Price : $ 3.50.)

In Italian.

1939

SANTARELLA (L.).

La tecnica delle fondazioni, con particolare rigu alla costruzione dei ponti e delle grandi strutture.

Bologna, L. Cappelli. 1 volume, 358 pagine e fi (Prezzo : 22 Lire.)

II. — PERIODICALS.

[**016**. 385. (05]

In French.

Annales des Ponts et Chaussées (Paris).

1939 **624 .51**

Annales des ponts et chaussées, avril, p. 421.

PIGEAUD. — Calcul des **ponts suspendus** (suite et fin). (14 000 mots & fig.)

Bulletin de l'Union internationale des chemins de fer. (Paris.)

1939 **656 (.4)**

Bull. de l'Union intern. des ch. de fer, juillet, p. 236.

Rapport des Chemins de fer allemands et Fédéraux suisses sur la question : **Concurrence et coopération en trafics voyageurs et marchandises** entre chemin de fer et automobile (avril 1939). (6 500 mots.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1939 **385 .63**

Bull. des transp. intern. par ch. de fer, juillet, p. 277.

NEHRING (K.). — Le **droit de vérification** du destinataire vis-à-vis du voiturier (chemin de fer) et du commissionnaire-expéditeur. (3 800 mots.)

1939 **385 .113 (.43)**

Bull. des transp. intern. par ch. de fer, juillet, p. 299.

Le **Chemin de fer du Reich** en 1938. (7 400 mots.)

1939 **313 .385 (.497. 2)**

Bull. des transp. intern. par ch. de fer, juillet, p. 325.

Les **Chemins de fer de l'Etat bulgare** pendant l'exercice 1937. (500 mots.)

1939 **385 .113 (.481)**

Bull. des transp. intern. par ch. de fer, août, p. 362.

Résultats d'exploitation des Chemins de fer de l'Etat norvégien durant l'exercice 1937-38. (300 mots.)

Bulletin technique de l'Association des Ingéni sortis de l'Ecole Polytechnique de Bruxe (Bruxelles.)

1938

Bull. tech. de l'Assoc. des Ing. sortis de l'Ecole I technique de Bruxelles, décembre, p. 285.

DECROLY (Cl.). — La physico-chimie au servic la qualité et du rendement en **métallurgie.** (11 300 & fig.)

1939 **621**

Bull. tech. de l'Assoc. des Ing. sortis de l'Ecole I technique de Bruxelles, février, p. 25.

KLOPFERT (Ad.). — La **soudure électrique par sistance.** (5 000 mots & fig.)

Bulletin technique de la Suisse romande. (Vev

1939 **62 .(01 &**

Bull. techn. de la Suisse romande, n° 15, 29 juill., p.

PARIS (A.). — Résistance des profils fléchis **béton armé.** Egale capacité de résistance. (3 000 2 tableaux & fig.)

1939 **62 .(01 &**

Bull. techn. de la Suisse romande, n° 17, 26 août, p.

BOLOMEY (J.). — **Module d'élasticité du bé** (1 300 mots & fig.)

1939

Bull. techn. de la Suisse romande, n° 17, 26 août, p.

DELLEY (Ed.). — Quelques réflexions à propo l'économie des **combustibles.** (6 600 mots.)

Economie et technique des transports. (Lucer

1939 **625 .2 (.45) & 625 .62 (**

Economie et technique des transports, juin-juillet, p

FERRARI (R.). — Le service du **matériel rou** des tramways municipaux de Milan. (800 mots &

1939 **621 .33 (.**

Economie et technique des transports, juin-juillet, p

BILEK (J.). — La **traction électrique** dans les tr ports publics en Tchécoslovaquie entre 1918 et (300 mots & fig.)

39 **621 .335 (.494)**
omie et technique des transports, juin-juillet, p. 56.
tomotrice « Flèche du Jura » des Chemins de fer raux suisses. (400 mots & fig.)

Electricité. (Paris.)

39 **621 .31**
ricité, juillet-août, p. 237.
GLOFF (P.) & FELIX (J. J.). — La première **smission d'énergie électrique par courant continu** 0 volts à l'aide de mutateurs. (3 500 mots & fig.)

France Transports. (Paris.)

39 **656 .225 & 656 .235 .7**
ce Transports, 15 juillet, p. 9.
ERNARD. — Le rôle du chemin de fer dans le dé-ppement de la production et le **transport des pri-rs.** (2 200 mots & fig.)

39 **385 .581 (.44)**
ce Transports, 15 juillet, p. 17.
églementation du travail du personnel des entre-es de transport par terre. (5 000 mots.)

39 **656 (.44)**
ce Transports, 15 juillet, p. 23.
APLAINE (R.). — Les transports à grande distance **la coordination.** (3 000 mots.)

39 **656 (.44)**
ce Transports, 15 juillet, p. 37.
coordination des transports fluviaux et les trans-s par chemin de fer. (4 800 mots.)

39 **656 .(06**
ce Transports, 1er août, p. 9.
X^e^ Congrès de la Chambre de Commerce Inter-onale et les transports. (6 000 mots.)

39 **656 (.44)**
ce Transports, 1er août, p. 15.
APLAINE (R.). — Transports et transporteurs spé-x dans la **coordination.** (2 400 mots.)

Génie civil. (Paris.)

39 **621 .89**
e civil, n° 2971, 22 juillet, p. 75.
RILLIÉ (H.). — Les incidents de **graissage** et les ens d'y remédier. (4 400 mots.)

39 **624 .63 (.44)**
e civil, n° 2971, 22 juillet, p. 78.
nt en béton armé de Neuville-sur-Oise. sur l'Oise ne-et-Oise). (3 700 mots & fig.)

39 **621 .31 (06**
e civil, n° 2972, 29 juillet, p. 103.
RIBOT-LASPIERE (J.). — La X^e^ Session de la férence internationale des **grands réseaux élec-ues.** (Paris, 29 juin-8 juillet 1939.) (3 800 mots g.)

1939 **669 .1**
Génie civil, n° 2972, 29 juillet, p. 107.
La **fabrication de l'acier** par le procédé Thomas-électrique, aux aciéries Hœsch, à Dortmund (Allemagne). (1 200 mots.)

1939 **669 .1**
Génie civil, n° 2974, 12 août, p. 145.
L'influence d'additions spéciales sur certaines propriétés de la **fonte.** (1 500 mots.)

1939 **536**
Génie civil, n° 2974, 12 août, p. 146.
Les propriétés thermodynamiques de la **vapeur d'eau.** (1 400 mots.)

1939 **385 .(09 (.43)**
Génie civil, n° 2975, 19 août, p. 163.
PONDEVEAUX (L.). — La **situation actuelle** des Chemins de fer allemands. (2 300 mots.)

1939 **669 .1**
Génie civil, n° 2975, 19 août, p. 166.
Les **alliages fer-carbone,** envisagés du point de vue de la sécurité. (1 200 mots.)

La construction métallique. (Bruxelles.)

1939 **621 .431 .73**
La construction métallique, 15 mai, p. 3.
Le **Diesel rapide** pour véhicules routiers lourds. (2 000 mots & fig.)

1939 **624 (.493)**
La construction métallique, 15 juin, p. 3.
NIHOUL (R.). — Les **ouvrages d'art** du Canal Albert. (3 600 mots & fig.)

La Science et la Vie. (Paris.)

1939 **621 .135 .(01, 625 .2 & 656 .222 .1**
La Science et la Vie, août, p. 118.
DEVAUX (P.). — La **circulation des trains ultra-rapides** et les problèmes nouveaux de stabilité aux grandes vitesses. (6 400 mots & fig.)

La Technique moderne. (Paris.)

1939 **624 .63 (.44)**
La Technique moderne, n° 15, 1er août, p. 537.
SEE (Ch. Ed.). — Les nouveaux **ponts** de la région parisienne. (5 200 mots & fig.)

1939 **621 .33 (.45)**
La Technique moderne, n° 15, 1er août, p. 550.
Développement de la **traction électrique** en Italie. (1 900 mots & fig.)

1939 **621 .132 .8 (.3) & 621 .431 .72 (.3)**

La Technique moderne, n° 15, 1er août, p. 552.

CAUVY (J.). — Les progrès récents de la **traction par locomotives Diesel** de grande puissance dans le monde. (1 000 mots & fig.)

1939 **621 .392 & 624 .32**

La Technique moderne, n° 16, 15 août, p. 570.

Le développement de l'emploi de la **soudure** dans la construction des ponts-rails. (2 300 mots & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **621 .392 & 669 .1**

L'Ind. des voies ferrées et des transp. autom., juin, p. 158.

FOY (P.). — L'acier inoxydable : Procédés de **construction Budd.** Application au matériel de transport. (2 400 mots & fig.)

1939 **621 .31**

L'Ind. des voies ferrées et des transp. autom., juillet, p. 181.

SAUVAIRE. — **Signalisation et commande à distance** sans fils-pilotes dans les réseaux de distribution d'énergie électrique. (3 900 mots & fig.)

Revue générale des chemins de fer. (Paris.)

1939 **656 .225 (.44)**

Revue générale des chemins de fer, 1er août, p. 91.

PIERSON (A.). — Les **transports de marée** au départ de Boulogne-sur-Mer. (3 400 mots & fig.)

1939 **656 .25 (0 (.44)**

Revue générale des chemins de fer, 1er août, p. 100.

LEMONNIER. — **Unification des règlements de sécurité** de la Société Nationale des Chemins de fer français. (3 300 mots.)

1939 **625 .215**

Revue générale des chemins de fer, 1er août, p. 106.

HUG (Ad. M.). — Le problème du **guidage des essieux** dans les courbes. (2 300 mots & fig.)

1939 **621 .133 .2 (.44)**

Revue générale des chemins de fer, 1er août, p. 111.

JOUVELET & DORIOT. — L'adoption par la S. N. C. F. de l'acier pour la construction des **foyers de locomotives.** (3 200 mots & fig.)

1939 **621 .33 (.44)**

Revue générale des chemins de fer, 1er août, p. 117.

GASTINE. — L'**électrification** de la ligne de Massy-Palaiseau à St-Remy-les-Chevreuse. (2 100 mots & fig.)

Revue universelle des Mines. (Liége.)

1939 **669 & 691**

Revue universelle des Mines, août, p. 388.

CHAUDRON (G.). — Les mécanismes et les causes de la **corrosion** intergranulaire. (2 000 mots & fig.)

1939 **669 &**

Revue universelle des Mines, août, p. 411.

HERENGUEL (J.). — Les **alliages légers** résistan la corrosion. (2 700 mots & fig.)

1939 **669 &**

Revue universelle des Mines, août, p. 416.

BASTIEN (P.). — La **résistance à la corrosion** magnésium, du calcium et des alliages ultra-lég (8 000 mots & fig.)

1939 **691 &**

Revue universelle des Mines, août, p. 427.

CAMPUS (F.), DANTINNE (R.) & JACQUEM (R.). — Essais des **peintures** et des **vernis.** (10 500 m & fig.)

1939 **669 &**

Revue universelle des Mines, août, p. 439.

COLLEE (R.). — **Protection du fer et de ses alli** par procédés chimiques et par dépôts électrolytiq (4 800 mots.)

Traction nouvelle. (Paris.)

1939 **621 .331 (**

Traction nouvelle, juillet-août, p. 122.

BOUTTEVILLE (R.). — **Centrales électriques f** çaises. Thermiques hydrauliques. (2 000 mots & fig.

1939 **621 .431 .72 (**

Traction nouvelle, juillet-août, p. 134.

BERNARD (R.). — Mise en service des **autom A D P & A D X 2 Renault.** (600 mots & fig.)

1939 **656 .222 .5 (**

Traction nouvelle, juillet-août, p. 138.

LEDARD (H.). — Les **services très rapides à vo geurs** en Angleterre. (2 000 mots & fig.)

1939 **621 .431 .72 (.4**

Traction nouvelle, juillet-août, p. 146.

Le développement de la **traction Diesel** au Da mark. (500 mots & fig.)

In German.

Der Bahn-Ingenieur. (Berlin).

1939 **625 .17 (**

Der Bahn-Ingenieur, Nr. 29/30, 16/23 Juli, S. 52

Dammrutsch an der Strecke Berlin-Dresden. (1 Wörter.)

1939 **625**

Der Bahn-Ingenieur, Nr. 32, 6. August, S. 553.

Die Wirtschaftlichkeit neuzeitlicher Metallwa maschinen bei der **Fahrzeugunterhaltung.** (1 Wörter.)

1939 **625**

Der Bahn-Ingenieur, Nr. 32, 6. August, S. 557.

Verschiebbarer Hebebock, besonders für Güterwa werkstätten. (900 Wörter.)

939 **625 .216**
Bahn-Ingenieur, Nr. 33, 13. August. S. 561.
OLLERT (J.). — Aufarbeiten von Reibbacken der **bungspuffer.** (1 400 Wörter & Abb.)

939 **625 .216**
Bahn-Ingenieur, Nr. 33, 13. August, S. 569.
CHATTE (L.). — Wichtige Instandsetzungsarbeiten **Hülsenpuffern.** (1 000 Wörter & Abb.)

939 **621 .133 .2**
Bahn-Ingenieur, Nr. 34, 20. August, S. 589.
okomotivfeuerschirme. (1 800 Wörter.)

Die Lokomotive. (Berlin).

939 **625 .2 & 669**
Lokomotive, August, S. 123.
CHNEIDER (L.). — Werkstoff und Konstruktion **Eisenbahnbau.** (2 800 Wörter & Abb.)

939 **621 .132 .1 (.56)**
Lokomotive, August, S. 129.
IEISE (G.). — Neue **Lokomotiv-Bauarten** für die rkischen Staatsbahnen. (1 400 Wörter & Abb.)

Die Reichsbahn. (Berlin.)

939 **385 .59 (.43)**
Reichsbahn, Heft 32, 9. August, S. 799.
Die **Haftung der Reichsbahnbediensteten** gegenüber Verwaltung. (12 800 Wörter.)

Elektrische Bahnen. (Berlin.)

939 **621 .33 (.43) & 537 .7 (.43)**
ktrische Bahnen, Mai, S. 142.
URTIUS (E. W.). — Die **Messwagen** des Elektrohnischen Versuchsamts. (4 200 Wörter & Abb.)

939 **621 .33**
ktrische Bahnen, Mai, S. 148.
VILKE (G.). — **Überspannungen** in elektrischen nanlagen und ihre Bekämpfung. (4 000 Wörter & b.)

939 **621 .335 (.494) & 621 .338 (.494)**
ktrische Bahnen, Juni, S. 155.
VERZ (H.). — Die **elektrischen Leichttriebzüge** der schbergbahn. (2 500 Wörter & Abb.)

939 **656 .215**
ktrische Bahnen, Juni, S. 161.
RÖTHLEIN (H.). — Wirtschaftliche Untersuchung Glättungseinrichtungen bei Gleichrichtern für die eisung der **Bahnhofsbeleuchtung** aus dem 16 2/3 Hz-z. (2 700 Wörter & Abb.)

939 **621 .332 (.43)**
ktrische Bahnen, Juni, S. 168.
LATZ (H.). — Versuche der Deutschen Reichsbahn **Kabeln und Leitungen mit Neustoffen.** (1 200 rter.)

Gleistechnik und Fahrbahnbau (Karlsruhe.).

1939 **625 .213**
Gleistechnik und Fahrbahnbau, Heft Nr. 13/14, 15. Juli, S. 109.
FINDEIS (R.). — **Gleisabsteckung** während des Betriebes. (1 900 Wörter & Abb.)

1939 **625 .143 .3**
Gleistechnik und Fahrbahnbau, Heft Nr. 13/14, 15. Juli, S. 112.
Untersuchungen über die Verlängerung der **Lebensdauer der Eisenbahnschienen** in den Vereinigten Staaten. (1 100 Wörter.)

1939 **625 .113**
Gleistechnik und Fahrbahnbau, Heft Nr. 15/16, 15. August, S. 125.
WEIHS (L.). — Beitrag zum **Nalenz-Höfer-Verfahren.** (5 800 Wörter & Abb.)

1939 **625 .14 (.73)**
Gleistechnik und Fahrbahnbau, Heft Nr. 15/16, 15. August, S. 137.
Einige Zahlen aus der **Gleiswirtschaft** der amerikanischen Eisenbahnen. (800 Wörter.)

Glasers Annalen. (Berlin.)

1939 **621 .431 .72 (.43)**
Glasers Annalen, Heft 13, 1. Juli, S. 179.
STROEBE & HÜTTEBRÄUCKER. — Neuere Entwicklung der **Verbrennungstriebwagen** bei der Deutschen Reichsbahn. (3 800 Wörter & Abb.)

1939 **625 .25**
Glasers Annalen, Heft 13, 1. Juli, S. 184.
SCHRÖDER (E.). — Neuerungen auf dem Gebiet des **Bremswesens.** (4 800 Wörter & Abb.)

1939 **621 .131. 1**
Glasers Annalen, Heft 14, 15. Juli, S. 191.
ECKHARDT (F.). — Verfahren zur Ermittlung der **Lokomotiv-Charakteristik.** (2 000 Wörter & Abb.)

1939 **656 .211 .5 & 656 .234**
Glasers Annalen, Heft 14, 15. Juli, S. 197.
SCHMELZER. — Die technische Entwicklung der **Fahrkarten-Druckmaschine.** (4 400 Wörter & Abb.)

1939 **656 .222 .1**
Glasers Annalen, Heft 15, 1. August, S. 203.
WIESINGER (K.). — **Entgleisungssicherer Ultraschnellverkehr** mit mehr als 300 km./h. (5 500 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **621 .33 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 263.
EGER. — Die **Elektrisierung** Nürnberg-Saalfeld. (6 600 Wörter & Abb.)

1939 **621 .335 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 274.

LOTTER (G.). — Die neueren **elektrischen Lokomotiven** der Deutschen Reichsbahn. (9 600 Wörter & Abb.)

1939 **621 .332 (.436)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 289.

DAVID (K.). — Die neue vierseilige 110 kV-**Bahnstromfernleitung** der Deutschen Reichsbahn in der Ostmark. (5 600 Wörter & Abb.)

1939 **621 .335 (.436)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 296.

PFLANZ (K.). — Aus der Entwicklung neuerer **elektrischer Triebfahrzeuge** der vormaligen Österreichischen Bundesbahnen. (2 800 Wörter & Abb.)

1939 **621 .33 (.492)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 299.

van LESSEN (H. J.). — Die **Elektrisierung** des Niederländischen Eisenbahnnetzes. (1 900 Wörter & Abb.)

1939 **621 .33 (.485)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 303.

ÖFVERHOLM (I.). — Die **Elektrisierung** der Schwedischen Staatseisenbahnen. (900 Wörter & Abb.)

1939 **621 .33 (.45)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 305.

Der **elektrische Zugbetrieb** in Italien. (500 Wörter & Abb.)

1939 **621 .33 (.494)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 306.

Ergebnisse der **Elektrisierung** der Schweizerischen Bundesbahnen (S. B. B.) im Jahre 1938. (300 Wörter.)

1939 **621 .335 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 308.

Dreiteiliger Wechselstrom-Triebwagenzug der Deutschen Reichsbahn für 120 km/h. (700 Wörter.)

1939 **621 .33 (.42)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 309.

Der **elektrische Zugbetrieb** bei der englischen Südbahn. (1 300 Wörter & Abb.)

1939 **621 .43 (.43)**
Organ für die Fortschr. des Eisenbahnw., Heft 14/15, 24. Juli, S. 311.

Der neue **Kruckenberg-Schnelltriebwagen** der Deutschen Reichsbahn. (300 Wörter.)

1939 **625**
Organ für die Fortschr. des Eisenbahnw., Heft 14/
24. Juli, S. 315.

BLOSS. — Der **Ringfeder-Schienenpuffer.** (3
Wörter & Abb.)

1939 **621 .135 .4 & 625 .**
Organ für die Fortschr. des Eisenbahnw., Heft 14/
24. Juli, S. 320.

HANKER (R.). — Die **stossfreie Krümmungse**
fahrt. (2 600 Wörter & Abb.)

1939 **625**
Organ für die Fortschr. des Eisenbahnw., Heft 14/
24. Juli, S. 325.

POHLENZ (L.). — **Entwässerung und Abdichtu**
von Stütz- und Futtermauern. (1 800 Wörter & Ab

1939 **625 .**
Organ für die Fortschr. des Eisenbahnw., Heft
15. August, S. 326.

KÖHLE. — Die Weiterentwicklung des **Drehsch**
ben-Rollschemels « System Marjollet » zur Kre
schiebebühne. (800 Wörter & Abb.)

Verkehrstechnische Woche. (Berlin.)

1939 **625 .4 (.**
Verkehrstechnische Woche, Heft 32, 9. August, S. 3

RASENACK. — Die **architektonische Gestaltung**
neuen Bahnhofs « Postdamer Platz » der Berli
Nordsüd-S-Bahn. (1 400 Wörter & Abb.)

1939 **725 .3 (.**
Verkehrstechnische Worke, Heft 33, 16. August, S. 3

LÜTTICH. — Verbundenheit von Architekt u
Ingenieur und die **Bauten** der Reichsbahn. (6 200 W
ter & Abb.)

1939 **656 .237 .4 (.**
Verkehrstechnische Worke, Heft 33, 16. August, S. 3

Die **Abrechnungsstelle** der britischen Eisenbahn
(1 700 Wörter.)

Zeitschrift des Vereines deutscher Ingenieu
(Berlin.)

1939 **721**
Zeitschr. des Ver. deutsch. Ing., Nr. 29, 22. Juli, S. 8

ERNST (F.). — Einfluss neuzeitlicher **Baugrun**
untersuchungen auf Planung und Ausführung gros
Werkanlagen. (3 000 Wörter & Abb.)

1939 **62. (**
Zeitschr. des Ver. deutsch. Ing., Nr. 31, 5. August, S. 8

KRISCH (A.). — Änderung der mechanischen Eig
schaften **metallischer Werkstoffe** bei tiefen Tempe
turen. (3 900 Wörter & Abb.)

939 625 .13 (.43)
schr. des Ver. deutsch. Ing., Nr. 32, 12. August, S. 932.
ANGER (H.). — Die **Strassentunnel** am Berliner senkreuz. (2 700 Wörter & Abb.)

939 621 .392
schr. des Ver. deutsch. Ing., Nr. 33, 19. August, S. 951.
AFERGUT (G.). — **Selbsttätige Lichtbogen-veissung** ohne maschinelle Hilfseinrichtungen. 00 Wörter & Abb.)

939 621 .436
schr. des Ver. deutsch. Ing., Nr. 33, 19. August, S. 960.
Värmeübergang im Dieselmotor. (1 300 Wörter & .)

939 691
schr. des Ver. deutsch. Ing., Nr. 33, 19. August, S. 962.
estimmung unerwünschter Bestandteile im **Beton-chlag.** (600 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

939 624 .142 .2 & 656 .259
schr. für das ges. Eisenb.-Sicherungs- und Fernmel-dewesen, Nr. 10, 1. August, S. 110.
EHR (E.). — Widerstandsmessungen an **Holz-wellen.** (3 300 Wörter & Abb.)

939 656. 256 (.436)
schr. für das ges. Eisenb.-Sicherungs- und Fernmel-dewesen, Nr. 10, 1. August, S. 117.
LESOK (W.). — Die **Sicherungs- und Strecken-kanlagen** Österreichischer Bauart. (1 900 Wörter bb.)

939 656 .256
schr. für das ges. Eisenb.-Sicherungs- und Fernmel-dewesen, Nr. 11, 20. August, S. 121.
CHMITZ (W.). — Der **Streckenblock** bei elektri-n Stellwerken. (4 000 Wörter & Abb.)

939 656 .254
schr. für das ges. Eisenb.-Sicherungs- und Fernmel-dewesen, Nr. 11, 20. August, S. 126.
ENNIG (K.). — **Selbstunterricht im Fernmeldewe-** (3 200 Wörter.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

939 656 .23 (0
ung des Ver. mitteleurop. Eisenbahnverw., Heft 29, 20. Juli, S. 579.
PIESS (W.). — Die Wahrnehmung der wirtschaft-en Belange bei der **Eisenbahntarifbildung.** (2 300 ter.)

1939 385 .4 (.43)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 30, 27. Juli, S. 593.
BUSCH (F.). — Das neue **Reichsbahngesetz.** (7 400 Wörter.)

1939 656 .211 .7 (.42 + .493)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 31, 3. August, S. 607.
WERNEKKE. — Die **Eisenbahnfähre** Harwich-Zeebrügge. (3 700 Wörter.)

1939 659 (.43)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 31, 3. August, S. 611.
GROSPIETSCH (C.). — Gedanken zur **Reichsbahn-Werbung.** (2 400 Wörter.)

1939 385. (06 .4 (.494)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 32, 10. August, S. 621.
WANNER (F.). — Das **schweizerische Verkehrs-schaffen** an der Landesausstellung 1939, in Zürich. (4 400 Wörter & Abb.)

1939 656 .231 (.485)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 33, 17. August, S. 641.
PASZKOWSKI (F.). — **Gütertarifreform** der Schwedischen Staatsbahnen. (1 800 Wörter.)

1939 385 .113 (.492)
Zeitung des Ver. mitteleurop. Eisenbahnverw., Heft 33, 27. August, S. 643.
Die **Niederländischen Eisenbahnen** im Jahre 1938. (1 000 Wörter.)

In English.

Bulletin, American Railway Engineering Association. (Chicago.)

1939 625 .143 .2 (.73) & 625 .143 .3 (.73)
Bulletin Amer. Railway Engineering Assoc., No. 411, June-July, p. 1.
MOORE (H. F.). — Fifth progress report of the joint investigation of **fissures in railroad rails.** (12 000 words, tables & fig.)

1939 621 .392 (.73) & 625 .144 .1 (.73)
Bulletin Amer. Railway Engineering Assoc., No. 411, June-July, p. 36.
MOORE (H. F.), THOMAS (H. R.) and CRAMER (R. E.). — First progress report of the joint investigation of **continuous welded rail.** (7 000 words, tables & fig.)

1939 625 .14 (01
Bulletin Amer. Railway Engineering Assoc., No. 411, June-July, p. 65.
Report on **stresses in railroad track.** (6 600 words & fig.)

Electrical Industries. (London.)

1939 **621 .33 (.42)**
Electrical Industries, August, p. 337.
Railway electrification. Progress on the Southern Railway. (1 000 words & fig.)

Engineer. (London.)

1939 **621 .13 (06 (.54)**
Engineer, No. 4358, July 21, p. 74.
« **Pacific** » **locomotives** in India. (2 700 words.)

1939 **621 .431 .72 (.42)**
Engineer, No. 4358, July 21, p. 79.
Shunting locomotive test figures. (800 words & fig.)

1939 **621 .135 (01**
Engineer, No. 4358, July 21, p. 80 and No. 4359, July 28, p. 106.
The **disturbing forces** in a locomotive. (13 000 words.)

1939 **621 .13 (09**
Engineer, No. 4359, July 28, p. 92.
LIVESAY (E. H.). — A day with some **veteran locomotives.** (6 800 words & fig.)

1939 **621 .132 .3**
Engineer, No. 4360, August 4, p. 131.
Pacific locomotives. (2 000 words.)

1939 **621 .132 .3 (06 (54)**
Engineer, No. 4360, August 4, p. 134 and No. 4361, August 11, p. 162.
Locomotives research and development. (12 400 words & fig.)

1939 **621 .95**
Engineer, No. 4360, August 4, p. 137.
An improved **drilling machine.** (700 words & fig.)

1939 **624 .7 (.73) & 624 .8 (.73)**
Engineer, No. 4361, August 11, p. 154.
TRATMAN (E. E. R.). — **Rigid concrete pontoon bridge.** (3 400 words & fig.) (To be continued.)

1939 **625 .41 (09**
Engineer, No. 4361, August 11, p. 160.
DENDY MARSHALL (C. F.). — The Samuda collection of literature relating to **atmospheric railways.** (3 500 words.) (To be continued.)

Engineering. (London.)

1939 **62 (01 & 621 .83**
Engineering, No. 3836, July 21, p. 63.
MELDAHL (A.). — The Brown-Boveri **testing apparatus for gear-wheel material.** (3 700 words & fig.)

1939 **656 .28 (.42)**
Engineering, No. 3836, July 21, p. 80.
Accidents on British railways in 1938. (1 700 words.)

1939 **621**
Engineering, No. 3836, July 21, p. 91.
LIPS (E. M. H.). — **Gating,** with reference to optimum flow conditions in metals. (1 800 wo & fig.)

1939 **621 .392 (06 (**
Engineering, No. 3836, July 21, p. 92.
Second progress report of the Research Commit of the Institute of **Welding.** (1 900 words.)

1939 **62**
Engineering, No. 3837, July 28, p. 95.
PROSSER (L. E.). — **Alternating-current bri thermostat for creep testing.** (4 200 words & fig.)

1939 **725 .31 (.**
Engineering, No. 3837, July 28, p. 97 and No. 3 August 11, p. 159.
The **reconstruction of Aldgate East Station.** (9 words & fig.)

1939 **621 .13**
Engineering, No. 3837, July 28, p. 105.
The **Zerhyd water-softening process.** (1 300 wo & fig.)

1939 **621 .**
Engineering, No. 3837, July 28, p. 106.
Opposed-piston two-stroke diesel engine. (1 100 wo & fig.)

1939 **621 .94 (.**
Engineering, No. 3837, July 28, p. 119.
Electro-pneumatic capstan lathe. (1 200 words & f

1939 **624 .51 (.**
Engineering, No. 3838, August 4, p. 129.
PAINE (C. E.). — **The Golden Gate bridge,** Francisco. (8 500 words & fig.) (To be continued.)

1939 **621**
Engineering, No. 3838, August 4, p. 134.
Lead-bronze bearings. (1 500 words.)

1939 **621**
Engineering, No. 3838, August 4, p. 135.
All-electric multi-speed drilling machine. (600 wo & fig.)

1939 **621**
Engineering, No. 3838, August 4, p. 136.
Combined shell-forging machine and drawing pr (2 200 words & fig.)

1939 **625 .232 (.**
Engineering, No. 3838, August 4, p. 146.
Buffet-restaurant car for York-Swindon service. words & fig.)

1939 **62 (01 (06 (.**
Engineering, No. 3838, August 4, p. 154.
The American Society for Testing Materials. (3 words.)

39 **625 .156 (.42)**
neering, No. 3839, August 11, p. 176.
ension-type buffer stop at Aldgate East Station. words.)

Engineering News Record. (New York.)

39 **62 (01 (06 (.73)**
neering News-Record, No. 1, July 6, p. 36.
aterials specifications and tests given annual over- ing. — Action on specifications and discussions of plored properties of materials feature 42nd an- American Society for Testing Materials meeting. 00 words.)

939 **626 .131 .4 (.73)**
ineering News-Record, No. 1, July 6, p. 42.
ew earth-moving equipment at Hansen Dam. (1 500 ls & fig.)

939 **691 & 721 .2**
ineering News-Record, No. 1, July 6, p. 45.
EVERUD (F. N.). — **Avoiding cracks in building s.** (1 600 words & fig.)

939 **624 .1 (.489)**
ineering News-Record, No. 1, July 6, p. 47.
OEFOED (S. M.). — Four **cofferdams** for forty- foundations. (1 600 words & fig.)

939 **627 & 656 .213**
ineering News-Record, No. 1, July 6, p. 65.
er deck lowered in one piece using large threaded gers. (600 words & fig.)

939 **55 & 62 (01**
ineering News-Record, No. 3, July 20, p. 58.
evices for sampling undisturbed soil. (1 800 words g.)

939 **625 .122**
ineering News-Record, No. 3, July 20, p. 63.
TEUERMANN (S.). — **A new soil compacting de-** (900 words & fig.)

939 **624 .63 (.494)**
ineering News-Record, No. 3, July 20, p. 65.
AEGI (H.) and LUCHINGER (A. J.). — **A bold center.** (1 000 words & fig.)

939 **62 (01 & 691**
ineering News-Record, No. 3, July 20, p. 68.
rogress in **construction materials.** (5 500 words.)

rnal, Permanent Way Institution. (London.)

939 **625 .13 (.42)**
rnal, Permanent Way Institution, April, p. 63.
EYNOLDS (H. R.). — **Temporary bridging** during nstructions and alterations. (6 200 words & fig.)

1939 **625 .12 (.42) & 656 .28 (.42)**
Journal, Permanent Way Institution, April, p. 82.
SMITH (M. G. R.). — **Mining subsidence on the railway.** (11 000 words & fig.)

1939 **625 .143 .1 (.42)**
Journal, Permanent Way Institution, April, p. 108.
SWINNERTON (N. W.). — **Flat bottom track** on the L. M. S. (6 700 words & fig.)

1939 **625 .13 (.42)**
Journal, Permanent Way Institution, April, p. 129.
GARNETT (J.). — The erection of a modern **precast concrete footbridge.** (2 200 words & fig.)

Proceedings, Institution of Mechanical Engineers. (London.)

1938 **621 .431 .72**
Proceedings, Institution of Mechanical Engineers, vol. 140, p. 67.
WILSON (W. G.). — The control of diesel railcars, with particular reference to **transmissions.** (29 000 words & fig.)

1938 **621 .39 & 621 .7**
Proceedings, Institution of Mechanical Engineers, vol. 140, p. 349.
THORNTON (B. M.) and THORNTON (W. M.). — The **measurement of the thickness of metal walls** from one surface only, by an electrical method. (17 500 words, tables & fig.)

1938 **621 .1 (0 & 621 .165**
Proceedings, Institution of Mechanical Engineers, vol. 140, p. 399.
SMITH (D. M.). — Stage efficiency, cumulative heat, and reheat factor of **steam turbines.** (19 000 words, tables & fig.)

1938 **62 (01 & 669**
Proceedings, Institution of Mechanical Engineers, vol. 140, p. 453.
SCHUSTER (L. W.). — The effect of certain factors on the **izod value of weld metal.** (17 000 words, tables & fig.)

1938 **621 .392 (06 (.42)**
Proceedings, Institution of Mechanical Engineers, vol. 140, p. 521.
Third **report of the Welding Research Committee.** (23 000 words, tables & fig.)

Mechanical Engineering. (Chicago).

1939 **621 .31**
Mechanical Engineering, August, p. 575.
LARNED (A. T.). — **Hydroelectric power-plant design.** (3 600 words & fig.)

1939 **621 & 662**
Mechanical Engineering, August, p. 581.
BAILEY (E. G.). — **Power and fuel.** (3 200 words.)

1939 **625 .251 & 625 .253**
Mechanical Engineering, August, p. 583.
McCUNE (J. C.). — **Braking high-speed trains** as an engineering problem. (7 000 words & fig.)

1939 **621 .116 (06 (.73)**
Mechanical Engineering, August, p. 595.
JACOBUS (D. S.). — **Cooperative work of the A. S. M. E. Boiler Code Committee.** (2 000 words.)

1939 **662**
Mechanical Engineering, August, p. 605.
STORCH (H. H.) and FIELDNER (A. C.). — **Coal hydrogenation.** (6 000 words & fig.)

Modern Transport. (London.)

1939 **629 .113 (.4)**
Modern Transport, No. 1062, July 22, p. 3.
Passenger transport in Europe. Vehicle construction and fuels. (3 000 words.)

1939 **621 .431 .72 (.481)**
Modern Transport, No. 1062, July 22, p. 4
Diesel railcars for Norway. For service on Oslo-Bergen line. (500 words & fig.)

1939 **621 .431 .72 (.42)**
Modern Transport, No. 1062, July 22, p. 5.
A. E. C. **shunting locomotive.** Tests to determine maximum capacity. (700 words & fig.)

1939 **351 .811 (.54)**
Modern Transport, No. 1062, July 22, p. 6.
FORBES SMITH (A.). — **Regulation of road transport in India.** (1 800 words.)

1939 **629 .113 .62 (.42)**
Modern Transport, No. 1062, July 22, p. 7.
McCREARY (I.). — **Trolleybus development** in Great Britain. (2 000 words.)

1939 **629 .113 .5 (.42)**
Modern Transport, No. 1062, July 22, p. 12.
New **double-deck bus for London.** (1 300 words & fig.)

1939 **629 .113 .62 (.43)**
Modern Transport, No. 1062, July 22, p. 13.
KÜHN (E.). — **Municipal transport** in Germany. (2 400 words & fig.)

1939 **656 .135 (06 (.42)**
Modern Transport, No. 1062, July 22, p. 15.
London haulage contractors. (1 100 words.)

1939 **656**
Modern Transport, No. 1063, July 29, p. 3.
Transport Congress in Zurich. Business and so aspects. (2 100 words & fig.)

1939 **629 .113 .5 (**
Modern Transport, No. 1063, July 29, p. 5.
Double-deck buses for Bournemouth. (1 200 word fig.)

1939 **656 .2 (**
Modern Transport, No. 1063, July 29, p. 11.
Railway services in the Isle of Wight. (1 800 w & fig.)

1939 **38**
Modern Transport, No. 1064, August 5, p. 3.
DELANNEY (L.). — **International aspects of tra port.** (1 800 words.)

1939 **656 .135 (**
Modern Transport, No. 1064, August 5, p. 5.
A joint industrial transport scheme. (3 000 w & fig.)

1939 **629 .113 .5 (**
Modern Transport, No. 1064, August 5, p. 11.
Commercial vehicle road tests : new series. A. E. C. « Mammoth Major 8 ». Economy of direct-injection oil engine. (1 700 words & fig.)

1939 **656 .135 (.42) & 656 .2 (**
Modern Transport, No. 1064, August 5, p. 12.
Transport of pigs. A comprehensive scheme. words.)

1939 **625 .232 (**
Modern Transport, No. 1064, August 5, p. 14.
Buffet-restaurant cars for L. N. E. R. (600 w & fig.)

1939 **656 .22**
Modern Transport, No. 1065, August 12, p. 3.
Improvements in railway passenger services. E trification and railcar results. (2 800 words.)

1939 **385 (091 (**
Modern Transport, No. 1065, August 12, p. 4.
Italian Railways. Important **new works.** (800 wor

1939 **725 .7 (**
Modern Transport, No. 1065, August 12, p. 5.
Road construction in Great Britain. (2 000 words

1939 **621 .431 .72 (.4**
Modern Transport, No. 1065, August 12, p. 7.
Powerful locomotive for Swiss railways. (1 000 w & fig.)

1939 **621 .431 .73 (.42) & 662 (**
Modern Transport, No. 1065, August 12, p. 14.
BARR (R.). — **Alternative fuels** for road transp (700 words.)

39 **621 .431 .73 (.42)**
rn Transport, No. 1065, August 12, p. 15.
mmer introduce new passenger range. Choice of **l or diesel engine.** (1 200 words & fig.)

Proceedings, Institution of Railway Signal Engineers. (Reading.)

39 **656 .257 & 656 .259**
eedings, Institution of Railway Signal Engineers, October 1938-January 1939, p. 218.
OTT (J. E.). — **Train describers.** (20 000 words.)

39 **656 .257**
eedings, Institution of Railway Signal Engineers, October 1938-January 1939, p. 256.
ALLIS (E. W.). — A comparison between **relay electric lever interlocking.** (21 000 words.)

39 **535 & 656 .251**
eedings, Institution of Railway Signal Engineers, October 1938-January 1939, p. 294.
NDLER (J. E.). — **Optical systems for light sig-** (15 000 words).

Railway Age. (New York.)

39 **385 .1 (.73)**
way Age, No. 3, July 15, p. 99.
e situation regarding proposed **transportation le-tion.** (2 600 words.)

39 **624 .2 (.73)**
way Age, No. 3, July 15, p. 102.
nadian National Railway builds more **long-span** ete bridges. (4 200 words & fig.)

39 **385 .114 (.73) & 621 .431 .72 (.73)**
way Age, No. 3, July 15, p. 108.
RBACH (H. H.). — **Diesel locomotive operation.** 0 words.)

39 **656 .135 (.73)**
way Age, No. 3, July 15, p. 117.
uthern Pacific **trucks** to supplement rail service in s. (800 words & fig.)

39 **385 (071**
way Age, No. 4, July 22, p. 134.
lult education on the Canadian Pacific Railway. 0 words & fig.)

39 **625 .244 (.73)**
way Age, No. 4, July 22, p. 137.
n Morrell **refrigerators** made of Douglas fir ply-l. (1 500 words & fig.)

39 **625 .142 .2 (.73) & 691 (.73)**
way Age, No. 4, July 22, p. 139.
ss wood treated in 1938. (1 900 words.)

1939 **656 .13 (.73)**
Railway Age, No. 4, July 22, p. 143.
Presidents discuss **motor transport.** (4 500 words.)

1939 **625 .258 (.73) & 656 .212.5 (.73)**
Railway Age, No. 4, July 22, p. 146.
Pennsylvania installs **retarders** in yard at Harrisburg. (3 800 words & fig.)

1939 **385 .114 (.73)**
Railway Age, No. 4, July 22, p. 150.
A **monumental cost analysis job** in California. (1 300 words.)

1939 **697 (.73) & 725 .23 (.73)**
Railway Age, No. 4, July 22, p. 171.
Union Pacific air **conditions** its general offices. (5 500 words & fig.)

1939 **621 .132 .3 (.73) & 625 .232 (.73)**
Railway Age, No. 4, July 22, p. 175.
The Lehigh Valley's **reconditioned passenger train** « John Wilkes ». (3 100 words & fig.)

1939 **385 .21 (.73)**
Railway Age, No. 4, July 22, p. 182.
S. 2009 (**Regulation of water carriers**) passed by House. (8 000 words.)

1939 **621 .139 (.73)**
Railway Age, No. 4, July 22, p. 188.
Prize papers discuss **coal and storekeeping.** (2 800 words.)

Railway Gazette. (London.)

1939 **656 .28 (01 (.42)**
Railway Gazette, No. 3, July 21, p. 84.
Colonel Mount's annual report. (3 500 words.)

1939 **625 .42 (.44) & 656 .25 (.44)**
Railway Gazette, No. 3, July 21, p. 92.
Signalling on Paris Metropolitan extension line. (800 words & fig.)

1939 **621 .132 .8 (.67)**
Railway Gazette, No. 3, July 21, p. 94.
New 4-8-4 + 4-8-4 metre-gauge Beyer Garratt locomotives, Kenya & Uganda Railways. (3 800 words & fig.)

1939 **621 .392 (.42) & 625 .144 .4 (.42)**
Railway Gazette, No. 3, July 21, p. 101.
CANTRELL (A. H.). — **Long welded rails.** (2 200 words & fig.)

1939 **621 .138 .5 (.42)**
Railway Gazette, No. 3, July 21, p. 105.
Building new locomotives at Swindon, Great Western Railway. (700 words & fig.)

1939 **656 .281 (.729)**
Railway Gazette, No. 3, July 21, p. 110.
The first fatal **derailment** in Jamaica. (1 200 words & fig.)

1939 **656 .255 (.73 & 656 .256 .3 (.73)**
Railway Gazette. No. 4, July 28, p. 131.
Single-line automatic signalling in U. S. A. (1 200 words & fig.)

1939 **621 .137 .1 (.438)**
Railway Gazette, No. 4, July 28, p. 132.
Automatic locomotive fuel regulation. (1 200 words & fig.)

1939 **656 .257 (.44)**
Railway Gazette, No. 4, July 28, p. 134.
Electro-mechanical signal box in France. (600 words & fig.)

1939 **621 .433**
Railway Gazette. No. 4, July 28. p. 136.
Gas-driven vehicles. (400 words.)

1939 **656 .211 .7 (.42)**
Railway Gazette. No. 4, July 28, p. 138.
The Larne-Stranrear **motorcar ferry.** (1 600 words & fig.)

1939 **629 .113 (.42)**
Railway Gazette. No. 4, July 28, p. 142.
The R T type bus, London Transport. (900 words & fig.)

1939 **656 .13 (.42)**
Railway Gazette, No. 4, July 28, p. 143.
London Transport County services. (3 000 words & fig.)

1939 **621 .431 .71 (.42)**
Railway Gazette. No. 4, July 28. p. 147.
A diesel-engined **shunting tractor.** (1 000 words & fig.)

1939 **656 .221**
Railway Gazette. No. 5, August 4. p. 171.
Train resistances at high speeds. (1 500 words & fig.)

1939 **385 .1 (.43)**
Railway Gazette. No. 5. August 4, p. 174.
New Reichsbahn law in Germany. (600 words.)

1939 **625 .256 (.941)**
Railway Gazette. No. 5. August 4. p. 175.
New Western Australian **adjustable coupler.** (500 words & fig.)

1939 **625 .232 (.42)**
Railway Gazette. No. 5. August 4. p. 176.
New L. N. E. R. **buffet-restaurant cars** for York-Swindon service. (600 words & fig.)

1939 **624 .32 (.**
Railway Gazette, No. 5, August 4, p. 179.
New Nile bridge, Egyptian State Railways. (
words & fig.)

1939 **621 .138 .5 (.**
Railway Gazette, No. 5, August 4, p. 181.
Special fixtures at Horwich Works, L. M. S. R. (
words & fig.)

1939 **625 .**
Railway Gazette, No. 5, August 4, p. 204.
Locomotive brake block pressures. (1 200 wo
& fig.)

1939 **621 .392 (.68) & 625 .144 .1 (.**
Railway Gazette, No. 5, August 4, p. 205.
Rail welding in South Africa. (500 words.)

1939
Railway Gazette, No. 5, August 4, p. 206.
The road and rail conference. (2 000 words.)

1939 **625 .113 (.**
Railway Gazette, No. 5, August 4, p. 208.
Curve reduction on route of Super Chief. (
words.)

1939 **621 .138 .5 (**
Railway Gazette, No. 5, August 4, p. 211.
Improvements at Swindon Works, G. W. R. (
words & fig.)

1939 **656 .254 (.**
Railway Gazette, No. 5, August 4, p. 213.
Train starting procedure, Swiss Federal Railw
(200 words & fig.)

1939 **621 .431 .72 (**
Diesel Railway Traction, p. 118, supplt. to the Rail
Gazette, August 4.
Express diesel locomotive operation. (3 200 w
& fig.)

1939 **621 .431 .72 (**
Diesel Railway Traction, p. 121, supplt. to the Rail
Gazette, August 4.
Diesel shunting locomotives for steel works.
words & fig.)

1939 **621 .431 (.72) & 62**
Diesel Railway Traction, p. 122, supplt. to the Rail
Gazette, August 4.
Fully-automatic control of **mechanical transmis**
(1 100 words & fig.)

1939 **621 .431 .72 (.**
Diesel Railway Traction, p. 123, supplt. to the Rai
Gazette, August 4.
Railcar traction in Poland. (500 words.)

39 **621 .431 .72 (.42)**
el Railway Traction, p. 124, supplt. to the Railway Gazette, August 4.
w British **diesel locomotives.** (300 words & fig.)

39 **621 .432 .72 (.42) & 625 .616 (.42)**
el Railway Traction, p. 128, supplt. to the Railway Gazette, August 4.
rrow-gauge **locomotives** for special service. (900 ls & fig.)

39 **621 .431 .72 & 625 .235**
el Railway Traction, p. 129, supplt. to the Railway Gazette, August 4.
e **painting of railcars.** (800 words.)

39 **385 .114 (.73) & 621 .431 .72 (.73)**
el Railway Traction, p. 130, supplt. to the Railway Gazette, August 4.
unting **locomotive operation.** (12 000 words, tables g.)

39 **621 .335 (.494)**
tric Railway Traction, p. 78, supplt. to the Railway Gazette, July 21.
ectric **motive power progress** in Switzerland. (1 000 ls & fig.)

39 **625 .216 (.42)**
tric Railway Traction, p. 80, supplt. to the Railway Gazette, July 21.
e Scharfenberg **multi-purpose coupling.** (2 000 ls & fig.)

39 **621 .335 (.494)**
tric Railway Traction, p. 82, supplt. to the Railway Gazette, July 21.
000 **h. p. electric locomotive.** (4 400 words & fig.)

Railway Magazine. (London.)

39 **656 .222 .1 (42) & 656 .225 (.42)**
way Magazine, No. 506, August, p. 79.
OCK (O. S.). — **British express goods train performance.** (3 400 words & fig.)

39 **656 .222 .1 (.42)**
lway Magazine, No. 506, August, p. 87.
LLEN (C. J.). — **British locomotive practice and performance.** (5 000 words & fig.)

939 **621 .131 .3 (.44) & 656 .222 .1 (.44)**
lway Magazine, No. 506, August, p. 99.
ecent **French locomotive performance.** (3 800 words.)

939 **725 .113 (.44)**
lway Magazine, No. 506, August, p. 103.
he **main line gradients of French railways.** (1 200 ds & fig.)

939 **385 (09 (.042)**
lway Magazine, No. 506, August, p. 109.
ARRIE (D. S.). — **Northern heights branches of L. N. E. R.** (4 800 words & fig.)

1939 **621 .33 (.42)**
Railway Magazine, No. 506, August, p. 119.
Medway area electrification, Southern Railway. (1 100 words.)

1939 **656 .25 (.492)**
Railway Magazine, No. 506, August, p. 129.
GHEURY DE BRAY (R.). — Railway signalling in Holland. (2 500 words & fig.)

1939 **656 .222 .1 (.45)**
Railway Magazine, No. 506, August, p. 135.
Revolutionizing Italian **rail transport.** (900 words.)

Railway Mechanical Engineer. (New York.)

1939 **621 (06 (.73) & 625 (06 (.73)**
Railway Mechanical Engineer, July, p. 255.
Association of American Railroads Mechanical Division meeting (June 28-30). — Program included reports on **steam-locomotive development** and **diesel locomotive operation, etc.** — Study of freight-car trucks for higher speed service being pushed. (46 000 words & fig.)

South African Railways and Harbours Magazine. (Johannesburg.)

1939 **625 .232 (.68)**
South African Railways & Harbours Magazine, July, p. 885.
Luxury air-conditioned steel coaches for the South African Railways. (1 300 words & fig.)

1939 **621 .33 (.68)**
South African Railways & Harbours Magazine, July, p. 923.
Electric traction on the Reef. (1 800 words & fig.)

The Oil Engine. (London.)

1939 **621 .431 .72 (.43) & 656 .222 .1 (.43)**
The Oil Engine, No. 76, August, p. 109.
World's record railway speed. (300 words & fig.)

1939 **621 .431 .72**
The Oil Engine, No. 76, August, p. 114.
The services of the **diesel railcar.** (3 300 words.)

1939 **621 .431 .72 & 621 .8**
The Oil Engine, No. 76, August, p. 116.
S. L. M.-Winterthur **transmission development.** (1 000 words & fig.)

1939 **621 .431 .72**
The Oil Engine, No. 76, August, p. 123.
New vis-à-vis rail traction engine. A medius-speed brush design with outputs up to 340 b.h.p. (700 words & fig.)

1939 **385**
The Oil Engine, No. 76, August, p. 128.
The Railways' function and the Country's need. (1 700 words.)

1939 **621 .431 .72 (.73)**
The Oil Engine, No. 76, August, p. 132.
MANN (Ch. F.). — **The ninth Burlington Zephyr train.** (500 words & fig.)

1939 **621 .392 & 621 .431**
The Oil Engine, No. 76, August, p. 134.
A **cathode-ray indicator** for engine testing. (1 600 words & fig.)

Transit Journal. (New York.)

1939 **388 (.42)**
Transit Journal, July, p. 228.
TREVOR (J. S.). — Making friends with ten million people. **London Passenger transport's successful program of public relations.** How and why it was started and how it works. (2 800 words & fig.)

1939 **388 (.73)**
Transit Journal, July, p. 230.
The talk of the town. Baltimore's $ 7 000 000 improvement program-involving **new cars, new trolley buses new motor buses and heavy expenditures for shops, track and overhead lines.** (2 700 words & fig.)

1939 **725 .31 (.73)**
Transit Journal, July, p. 234.
Transit architecture goes modern. (Figures.)

1939 **629 .113 .62 (.73)**
Transit Journal, July, p. 236.
Wilmington « goes **trolley coach** ». (2 200 words & fig.)

1939 **621 .336 (.73)**
Transit Journal, July, p. 242.
JACKSON (W. R.). — **Self-lubricating trolley shoe.** (400 words & fig.)

1939 **388 (.71)**
Transit Journal, August, p. 264.
BUCK (M.). — What's happening to **transit** in Canada. (4 600 words & fig.)

1939 **388 (.73) & 629 .113 (.73)**
Transit Journal, August, p. 268.
Progress on the Pacific. (3 500 words & fig.)

1939 **388**
Transit Journal, August, p. 272.
GEDDES (N. B.). — Traffic and transit in the world of tomorrow. (3 000 words & fig.)

1939 **621 .338 (.73)**
Transit Journal, August, p. 274.
Baltimore's latest **streamliners.** (900 words & fig.)

In Spanish.

Boletín de la Asociación internacional permanente del Congreso Sudamericano de ferrocarriles. (Buenos Aires.)

1939 **385. (09.3 (...**
Boletín de la Asoc. intern. perm. del Congreso Sudamericano de ferrocar., mayo-junio, p. 13.
SOARES (E. E.). — Los **ferrocarriles** de propiedad de la nación argentina. Su crecimiento 1873-1938. (2 ... palabras.)

1939 **625 .14...**
Boletín de la Asoc. intern. perm. del Congreso Sudamericano de ferrocar., mayo-junio, p. 23.
BRONSON (C. B.). — Medios para conservar ... rieles. (2 200 palabras.)

1939 **656 .222 .1 ...**
Boletín de la Asoc. intern. perm. del Congreso Sudamericano de ferrocar., mayo-junio, p. 34.
Velocidades comparadas de los ferrocarriles a ... va... (1 100 palabras.)

1939 **385 (...**
Boletín de la Asoc. intern. perm. del Congreso Sudamericano de ferrocar., mayo-junio, p. 64.
GOMEZ (L. Teran). — El **ferrocarril** de Arica a ... Paz y su importancia comercial. (1 200 palabras.)

1939 **656 (...**
Boletín de la Asoc. intern. perm. del Congreso Sudamericano de ferrocar., mayo-junio, p. 39.
REBUELTO (E.). — **Combinación de transpo...** ferroviarios y camineros. (15 000 palabras.)

In Italian.

L'Ingegnere. (Roma.)

1399 **625 .1 (.45) & 725 .31 (...**
L'Ingegnere, luglio, p. 589.
PONTICELLI (E.). — La **sistemazione dei ser...** **ferroviari** dell'Urbe. (4 200 parole & fig.)

1939 **62. (01 & 66...**
L'Ingegnere, luglio, p. 628.
FERRERO (C. & A.). — I regoli per il calcolo di ... sezioni rettangolari in **cemento armato.** (1 600 pa... & fig.)

Rivista tecnica delle ferrovie italiane. (Roma...

1939 **625 .1 (...**
Rivista tecnica delle ferrovie italiane, 15 luglio, p...
MORGANA (M.). — **Quadruplicamento del bina...** tra Roma Tiburtina e Roma Mandrione. (3 800 pa... & fig.)

1939 **621 .135 .3 & 625 ...**
Rivista tecnica delle ferrovie italiane, 15 luglio, p...
MATERNINI (M.). — Considerazioni sul calcolo di ... oscillazioni nelle **sospensioni dei veicoli ferrovi...** (7 600 parole & fig.)

In Dutch.

De Ingenieur. (Den Haag.)

39 **624 .63**
ngenieur, Nr 8, 4 Augustus, p. Bt. 59.
AN BERGEN (C. F.). — **Boogbruggen van gewa- beton,** ontworpen door de Directie Bruggen van Rijkswaterstaat. (3 300 woorden & fig.)

39 **656** (.492) & **656** .225 (.492)
ngenieur, Nr 32, 11 Augustus, p. V. 41.
NTE (J.). — Nieuwe stappen in den **ontwikke-gang van het goederenvervoer** der Nederlandsche rwegen. (3 000 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

39 **621** .13 (09 (.492)
r- en Tramwegen, Nr 15, 22 Juli, p. 341.
ABRIJN (P.). — De **Rhijnspoor Locomotieven.** 0 woorden & fig.)

39 **385.** (09 (.73)
r- en Tramwegen, Nr 15, 22 Juli, p. 346; Nr 16, 5 Augustus, p. 368.
RINS (R.). — De **toestand** der amerikaansche rwegen (3 000 woorden & fig.)

39 **656** (.492)
r- en Tramwegen, Nr 15, 22 Juli, S. 348; Nr 16, 5 Augustus, p. 370.
MINK (A. E.). — **Wet autovervoer personen.** 0 woorden.)

39 **625** .142 .4
r- en Tramwegen, Nr 16, 5 Augustus, p. 361.
ONNEWELD (W. A.). — **Gewapend beton** als s- en langsliggers voor den spoorwegbovenbouw. 0 woorden & fig.)

39 **656** .1 (.43) & **656** .2 (.43)
r- en Tramwegen, Nr 17, 19 Augustus, p. 381.
ERMANN (J.). — **Reichsbahn en Reichsautobahn.** 0 woorden & fig.)

39 **385** (09 (.73)
r- en Tramwegen, Nr 17, 19 Augustus, p. 384.
RINS (R.). — De **toestand** der amerikaansche rwegen. (1 700 woorden.)

39 **621** .132 .3 (.493)
r- en Tramwegen, Nr 17, 19 Augustus, p. 386.
n **nieuwe sneltreinlocomotief** voor de Belgische rwegen. (2 100 woorden & fig.)

39 **625** .144 .2
r- en Tramwegen, Nr 17, 19 Augustus, p. 388.
RANDSMA (F.). — Het berekenen en uitzetten **overgangsbogen.** (1 200 woorden & fig.)

In Polish.

(= 91.885)

Inżynier Kolejowy. (Warszawa).

1939 **385** .1 = **91** .885
Inzynier Kolejowy, No. 6, p. 258.
BOBKOWSKI (A.). — **Railway economics.** (3 500 words.)

1939 **385** (.438) = **91** .885
Inzynier Kolejowy, No. 6, p. 261.
MISZKE (A.). — The problem of the **development of means of communications** in Poland. (4 000 words.)

1939 **656** .225 = **91** .885 & **656** .261 = **91** .885
Inzynier Kolejowy, No. 7, p. 286.
FILIPOWSKI (K.). — **Tenth anniversary of the container.** (5 600 words & fig.)

1939 **625** .113 = **91.** 885
Inzynier Kolejowy, No. 7, p. 293.
DWORANCZYK (J.). — Analytical method of **curve alignment** on the Nalenz-Höfer system. (5 400 words.)

1939 **62** = **91** .885
Inzynier Kolejowy, No. 8, p. 331.
WASILEWSKI (S.). — **Railways and inventions.** (4 700 words.)

1939 **691** = **91** .885
Inzynier Kolejowy, No. 8, p. 341.
FILIPOWICZ (B.). — Chemical and electrochemical **corrosion of iron.** (7 200 words & fig.)

In Portuguese.

Gazeta dos caminhos de ferro. (Lisboa.)

1939 **385** .113 (.469)
Gazeta dos caminhos de ferro, nº 1238, 16 de julio, p. 336.
SOUZA (J. Fernando de). — A **Companhia dos Caminhos de Ferro portugueses.** (1 800 palavras.)

1939 **385** .113 (.469)
Gazeta dos caminhos de ferro, nº 1239, 1 de agosto, p. 351.
SOUZA (J. Fernando de). — Os **Caminhos de Ferro da Norte de Portugal** em 1938. (1 000 palavras.)

Técnica. (Lisboa.)

1939 **625** .162
Técnica, julho, p. 418.
PINTO MACHADO (J. G.). — **Assuntos de estradas.** (1 500 palavras.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(NOVEMBER 1939)

6. 385. (02]

I. — BOOKS.

In French.

9 **621 .392**

soudures par résistance électrique : la résistance ique des joints soudés et des tôles assemblées.
xelles, A. de Boeck; Paris et Liége, Ch. Béranger. hure, 88 pages et tableaux. (Prix : 25 fr. franç.)

9 **385. (08 (.493)**

CTÉ NATIONALE DES CHEMINS DE FER ELGES.
pport sur l'exploitation pendant le douzième exer- 1938).
xelles, S. N. C. F. B. 1 volume, 292 pages, ta- et figures.

In German.

9 **625 .113**

N (J.) & MOLL (E.).
eln zum Abstecken von Kreiskurven und Über- bogen in neuer Teilung (400°).
tal (Schweiz), Lüdin & C°, und Stuttgart, Kon- Wittwer. 1 Band, 184 Seiten. (Preis : 5.80 R.M.)

9 **62 (02**

HAUS (H.).
riebstechnisches Taschenbuch.
chen. C. Hanser. 1 Band, 412 Seiten und Abbil- n. (Preis : 6.50 R.M.)

9 **621 .392**

ER-SIDD (E.) und RUHLAND (J.).
kbuch für die Praxis der elektrischen Lichtbogen- issung.
lin, Roth & C°. 1 Band, 49 Abbildungen und en. (Preis : 4.80 R.M.)

9 **656 .23**

RMANN (K.).
fadeu für den Verkehrsdienst. Heft 1 : Das Ta- en.
zig, Verkehrswissenschaftliche Lehrmittelgesell- m. b. H. 1 Band, 106 Seiten. (Preis : 1.75 R.M.)

In English.

1939 **388**

BENDTSEN (Paul, H.), Diplom. Engin., Royal Technical College, Copenhagen; Member, Institution of Danish Civil Engineers; Engineer, Danish State Railways.

Urban and Suburban Railways. — Studies of transport problems and network design. (Translated from the Danish by Micheli JESSEN.)

One volume (6 3/4 × 9 3/4 inches) of 180 + XXXIX pages, with 50 figures and 72 tables. — Copenhagen, Danmarks Natwividenskabelige Samfund; 1 Kommission Hos. G. E. C. Gad. Vimmelkaftet, 32. (Price : 8 Kröner.)

1939 **38 (09 (.73)**

CLARK (W. H.).

Railroads and rivers, the story of inland transportation. Boston : L. C. Page & Co. 334 pages. 8 3/4 in. × 5 3/4 in. (Price : $ 3.50.)

1939 **621 .392 (.73) & 625 .144 (.73)**

First progress report of the joint investigation of **continuous welded rail.** (University of Illinois, Bulletin No. 88, June 30.)

Urbana : published by the University, 34 pp. (Price : 15 cents.)

1939 **621 .392 (.73) & 625 .114.1 (.73)**

Fifth progress report of the joint investigation of **fissures in railroad rails.** (University of Illinois, Bulletin No. 89, July 4.)

Urbana : published by the University, 34 pp. (Price : 15 cents.)

1939 **656 .13 (02**

GARRETT (F. C.).

The Motor Transport Year-Book and Directory, 1938-39 (Garcke).

London : Electrical Press Limited, 13-16, Fisherstreet, Southampton Row, W. C. 1. 8 1/2 in. × 5 1/2 in. × 2 1/4 in. 840 pp. (Price : 30 s. net.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress intly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to ray Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 09).

1939 624 (02
HILL (D. Y.).
Bridge calculation and design (for steel bridges).
London : Charles Griffin and Co., Ltd., 42, Drury Lane, W. C. 2. (Price : 25 s. net.)

1939 625 .1 (06 (.73)
Proceedings of the **American Railway Engineering Association** for 1939.
Chicago : published by the Association, 59, East Van Buren street. 803 pp. 6 in. × 9 in. (Price : $ 8.)

1939 625 .142
Proceedings of the thirty-fifth annual meeting of the **American Wood-Preservers' Association**. Vol. 35.
Washington: published by the Association, 1427, Eye street, N. W. 503 pp. Illustrated. (No price stated.)

1939 621 .83
SHAW (F. W.).
Checking spur gear teeth : the base tangent and pin systems.
London : 28, Bedford street, Strand, W. C. 2. 7 1/4 in. × 4 3/4 in. 24 pp. Paper covers. (Price : 1 s. net.)

1939 388 (06
The 1939 Transit Convention in print. (A ser
27 notes reviewing recent progress in city, sub
and interurban transportation.) (Transit Journal, August 4.)
New York : McGraw-Hill Publishing Company 330, West 42nd street. 56 pp. Illustrated. (Price :

In Spanish.

1939 385. (09
HUIDOBRO DIAZ (C.).
Nuestros ferrocarriles.
Santiago, Ministerio de Fomento. 1 volumen, 2
ginas.

In Greek.

1939 656 (
POGUS (G. B.).
Le Réseau des Communications de Grèce en (Chemins de fer, automobiles, aviation, routes.)
Athènes, Imprimerie K. Veastos. 1 fascicule, 23 et tableaux.

II. — PERIODICALS.

[**016. 385. (05**]

In French.

Bulletin technique de la Suisse romande. (Vevey.)

1939 62. (01 & 691
Bull. techn. de la Suisse romande, n° 18, 9 septembre, p. 239.
BOLOMEY (J.). — Module d'élasticité du **béton.** (1 800 mots. 2 tableaux & fig.)

Bulletin technique de l'Union professionnelle des Inspecteurs techniques et des chefs de section des chemins de fer belges. (Bruxelles.)

1939 621 .133 .7
Bull. tech. de l'Union profes. des Insp. tech. et des Chefs de section des Ch. de fer belges, juillet, p. 1.
VERPLANCKEN (G.). — L'**épuration des eaux d'alimentation** de chaudières. (3 200 mots.)

1939 625 .154
Bull. tech. de l'Union profes. des Insp. tech. et des Chefs de section des Ch. de fer belges, juillet, p. 12
CREPLET (L. E.). — Un pousse-galets de **ponts-tournants pour locomotives.** (800 mots & fig.)

Génie civil. (Paris.)

1939 621 .335
Génie civil, n° 2976, 26 août, p. 173.
DUMAS (J.). — **Locomotive électrique** de 12
pour la ligne du Saint-Gothard des Chemins
fédéraux suisses. (4 500 mots & fig.)

1939 621
Génie Civil, n° 2977, 2 septembre, p. 204.
Les caractéristiques des génératrices pour **soud**
l'arc : génératrice à champ dévié, système La
(1 500 mots & fig.)

L'Economie internationale. (Paris.)

1939 656 .
L'Economie internationale, août, p. 61.
Transports par voie ferrée. (X^e^ Congrès de la
bre de Commerce Internationale, Copenhague
(3 300 mots.)

1939
L'Economie internationale, août, p. 78.
Coordination de la route et du rail. (X^e^ Cong
la Chambre de Commerce Internationale, Copen
1939.) (1 400 mots.)

L'Ossature métallique. (Bruxelles.)

1939 624 .32
L'Ossature métallique, septembre, p. 367.
SCHMITZ. — Le nouveau **pont** sur la Meuse
grée. (2 300 mots & fig.)

39 **621 .392 (.44) & 624 .32 (.44)**
sature métallique, septembre, p. 392.
HMID. — Le **pont soudé** de Joncherolles. (2 900 & fig.)

In German.

Der Bahn- Ingenieur. (Berlin.)

39 **625 .173 & 621 .392**
Bahn-Ingenieur, Nr. 36, 3. September, S. 613.
ENDT. — **Gasschmelzschweissung in der Gleisunaltung.** Einrichtung einer Gasschmelzschweissrotte. 00 Wörter & Abb.)

39 **621 .138.5 (.43) & 725 .23 (.43)**
Bahn-Ingenieur, Nr. 37/38, 10./17. September, S. 631.
STORIUS. — Der Erweiterungsbau des **Reichsausbesserungswerkes Rostock.** (4 800 Wörter & .)

Die Lokomotive. (Berlin.)

39 **621 .135.4**
Lokomotive, September, S. 139.
VENMARG. — Betrachtungen über den **Kurven-** und die Spurkranzabnützung von Dampflokomon. (4 000 Wörter & Abb.)

39 **621 .133.3 & 621 .135.4**
Lokomotive, September, S. 151.
ÖTHLER (K.). — **Neuartige Kesselauflagerung** und kstell-Vorrichtung für Mallet-Triebgestelle. (1 200 ter & Abb.)

Elektrische Bahnen. (Berlin.)

39 **621 .33 (.485)**
trische Bahnen, Heft 7, Juli, S. 175.
FVERHOLM (I.). — **Versuchswagen** der Schwehen Staatsbahnen mit Gleichrichtern für 16 2/3 tz. (5 300 Wörter & Abb.)

39 **621 .431.72 (.494**
trische Bahnen, Heft 7, Juli, S. 183.
TEINER (F.). — Die **dieselelektrischen Lokomoti-** Am 4/4 Nr. 1001 und 1002 der Schweizerischen desbahnen. (4 300 Wörter & Abb.)

39 **621 .333 (.43)**
trische Bahnen, Heft 7, Juli, S. 191.
ERMLE (D. H.). — Der **Fahrmotor E K B** 1 000 der hsbahn-Schnellzugslokomotive Reihe E 19 für 180 /h. Geschwindigkeit. (1 700 Wörter & Abb.)

39 **621 .332 (.43)**
trische Bahnen, Heft 7, Juli, S. 194.
ROSPIETSCH & HEIM. — Neuere **Fahrleitungsersuchungswagen** der Deutschen Reichsbahn. (1 700 ter & Abb.)

Glasers Annalen. (Berlin.)

1939 **62. (01 & 621 .392**
Glasers Annalen, Heft 16, 15. August, S. 215.
HAIDUK (H.). — Über die Festigkeitsberechnung von auf einer Zylinderfläche befindlichen **Schweissnähten.** (1 700 Wörter & Abb.)

1939 **621 .132.8**
Glasers Annalen, Heft 16, 15. August, S. 223.
MEINEKE (F.). — **Die Mason-Lokomotive.** (800 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **625 .234 (.73)**
Organ für die Fortschr. des Eisenbahnw., Heft 17, 1. September, S. 331.
BAUR (H.). — Über die Reglung von **Dampfheizungs- und Bewetterungsanlagen** in amerikanischen Eisenbahnpersonenwagen. (4 500 Wörter & Abb.)

1939 **621 .135.5 & 621 .136.1**
Organ für die Fortschr. des Eisenbahnw., Heft 17, 1. September, S. 338.
KRÖGER (H.). — Die **Veränderlichkeit der Bremsgestängelagen** an Lokomotiven und Tendern und die dadurch bedingte Form der Nachstellung. (4 700 Wörter, 6 Tafeln & Abb.)

1939 **621 .135.4**
Organ für die Fortschr. des Eisenbahnw., Heft 17, 1. September, S. 347.
HEUMANN. — Experimentelle und theoretische Untersuchung des **Schlingerns von Lokomotiven** in Gleisbögen. (2 200 Wörter.)

1939 **625 .215**
Organ für die Fortschr. des Eisenbahnw., Heft 17, 1. September, S. 350.
HEUMANN. — **Seitenschwingung** der Eisenbahnfahrzeuge. (1 200 Wörter.)

Verkehrstechnische Woche. (Berlin.)

1939 **656 .212.5 (.73)**
Verkehrstechnische Woche, Heft 34, 23. August, S. 397.
METZIG. — Umbau der **Ablaufanlage** des Verschiebebahnhofes Harrisburg in Amerika. (3 600 Wörter & Abb.)

1939 **656 .212.5**
Verkehrstechnische Woche, Heft 35, 30. August, S. 409.
NEBELUNG (H.). — Die **Ermittlung der Zugbildungszeiten** auf Verschiebebahnhöfen. (2 700 Wörter & Abb.)

1939 **656 .212.3**
Verkehrstechnische Woche, Heft 36/37, 6./13. September, S. 421.
RICHTER-DEVROE (F.) & MEYER (K.). — Betriebliche Betrachtungen über die Anordnung von **Überholungsgleisen** auf kleineren Bahnhöfen zweigleisiger Strecken. (4 500 Wörter & Abb.)

1939 **656 .212.5**
Verkehrstechnische Woche, 11. Sonderheft : Rangiertechnik. S. 8.
WENTZEL & METZIG. — **Rangieranlagen auf Unterwegsbahnhöfen.** (10 500 Wörter, 6 Tafeln & Abb.)

1939 **656 .212.5 (.43)**
Verkehrstechnische Woche, 11. Sonderheft : Rangiertechnik, S. 30.
MASSUTE. — Der **Umbauplan für den Verschiebebahnhof** Lübeck. (7 800 Wörter, 7 Tafeln & Abb.)

1939 **656 .212.5**
Verkehrstechnische Woche, 11. Sonderheft : Rangiertechnik, S. 47.
NEUMANN (G.) & KESTING (F.). — Praktische Winke für den Bau **mechanisierter Ablaufanlagen.** (4 200 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1939 **625 .162 & 656 .254**
Zeitschr. des Ver. deutsch. Ing., Nr. 34, 26. August, S. 965.
BEHR (E.). — **Sicherung von Wegübergängen** in Schienenhöhe. (6300 Wörter & Abb.)

1939 **621 .116**
Zeitschr. des Ver. deutsch. Ing., Nr. 35, 2. September, S. 995.
SCHIEGLER (L.). — Der Strömungsvorgang in der Brennkammer von **Rostfeuerungen.** (4 800 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **656 .257**
Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew., Nr. 12, 10. September, S. 133.
CHAUSSETTE (G.). — Die **Fahrstrassenauflösung** bei Gleisfreimeldeanlagen. (2 400 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **656 .234 (.43)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 34, 24. August, S. 651.
FRITZE. — Entwicklung der **Netz- und Bezirkskarten** bei der Deutschen Reichsbahn von 1932-1938. (3 200 Wörter.)

1939 **656 .23 (.43)**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 35, 31. August, S. 667.
WENZEL. — Die **Gütertarifpolitik** der Deutschen Reichsbahn im Ruhrgebiet. (8 800 Wörter.)

1939 **385 .113 (.4**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 31. August, S. 677.
Der **Geschäftsbericht** der Schweizerischen Bun bahnen für das Jahr 1938. (1 900 Wörter.)

1939 **385 .113 (.**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 31. August, S. 683.
WERNEKKE. — Die **Eisenbahnen der Vereinig Staaten** von Amerika im Jahre 1938. (6 000 Wört

1939 **385. (09.3 (.4**
Zeitung des Ver. mitteleurop. Eisenbahnverw., Nr. 14. September, S. 693.
OVERMANN. — **Hundert Jahre Eisenbahnpolitik** den Niederlanden. (5 400 Wörter & Abb.)

In English.

Engineer. (London.)

1939 **625 .3 & 62**
Engineer, No. 4362, August 18, p. 176.
DENDY MARSHALL (C. F.). — The Samuda coll tion of literature relating to **atmospheric railwa** (4 800 words.)

1939 **624 .8 (.**
Engineer, No. 4362, August 18, p. 178.
TRATMAN (E. E.). — **Rigid concrete pontoon bri** (3 000 words & fig.)

1939 **621**
Engineer, No. 4362, August 18, p. 179.
Quiet concrete breaker. (2 600 words, tables & f

1939 **621 .132.3 (.**
Engineer, No. 4362, August 18, p. 181; No. 4363, Aug 25, p. 205 and No. 4364, September 1, p. 238.
Locomotive research and development. (9 700 wo & fig.)

1939 **621 .132.3 (.4**
Engineer, No. 4362, August 18, p. 188.
Belgian « Atlantic » locomotives. (600 words & f

1939 **621 .392 (.73) & 625 .144.1 (.**
Engineer, No. 4362, August 18, p. 191.
Tests of welded rail joints. (1 100 words & tables

1939 **62 (01 &**
Engineer, No. 4362, August 18, p. 193 and No. 4 August 25, p. 221.
WATTS (O. P.). — **The corrosion of metals.** (9 words.)

1939 **621 .13**
Engineer, No. 4363, August 25, p. 213.
High-speed locomotives. (3 100 words.)

)39 **62 (01. & 621 .82**
ineer, No. 4363, August 25, p. 214.
ıe **sliding of metals**, frictional fluctuations, and ations of moving parts. (5 500 words & fig.)

)39 **625 .156 (.42)**
ineer, No. 4363, August 25, p. 219.
ydraulic buffer. (500 words & fig.)

)39 **621 .133.4**
ineer, No. 4363, August 25, p. 219.
ocomotive blast pipe caps. (300 words & fig.)

939 **621 .132.1 (.42) & 656 .222.1 (.42)**
ineer, No. 4364, September 1, p. 232.
IVESAY (E. H.). — **Scottish locomotive expe-**
ıces. (6 500 words & fig.)

939 **621 .13 (0 (.73)**
ineer, No. 4364, September 1, p. 239.
ımerican locomotive developments. (300 words.)

939 **669 .1**
Metallurgist, p. 49, supplt. to The Engineer, Au- gust 25.
ilicon in structural steels. (900 words & fig.)

939 **62 (01 & 669 .1**
Metallurgist, p. 51, supplt. to The Engineer, Au- gust 25.
'NEILL (H.). — **The strain age embrittlement of on.** (2 600 words & fig.)

939 **669 .1**
Metallurgist, p. 54, supplt. to The Engineer, Au- gust 25.
emper-hardening of austenitic steels containing on. (2 600 words & fig.)

Engineering. (London.)

939 **621 .43**
ineering, No. 3840, August 18, p. 187.
UCKLOW (G. F.). — The Kadenacy system of **venging.** (3 400 words, tables & fig.)

939 **624 .51 (.73)**
ineering, No. 3840, August 18, p. 191; No. 3842, September 1, p. 247.
AINE (C. E.). — The Golden Gate bridge, San ncisco. (4 800 words & fig.)

939 **621 .133.7**
ineering, No. 3840, August 18, p. 194.
AMS (B. J.). — **Continuous blowing-down for loco- ives.** (1 300 words & fig.)

939 **62 (01 (06 (.73)**
ineering, No. 3840, August 18, p. 209.
he American Society for Testing Materials. (5 200 ds.)

1939 **69 (06 (.42)**
Engineering, No. 3841, August 25, p. 219.
Building research. (3 300 words & fig.)

1939 **621 .132.1 (.89)**
Engineering, No. 3841, p. 221 and No. 3842, September 1, p. 245.
Locomotive reconstruction on the Central Uruguay Railway. (3 800 words & fig.)

1939 **621 .39**
Engineering, No. 3841, August 25, p. 239.
Ignition control of resistance-welding machines. (3 800 words & fig.)

1939 **625 .172 (.54)**
Engineering, No. 3842, September 1, p. 253.
DE MELLOR (M. F.). — **Track-recording car** on the Indian Peninsula Railway. (5 300 words & fig.)

1939 **385 .11 (.42)**
Engineering, No. 3842, September 1, p. 259.
British railway operation in 1938. (3 000 words.)

1939 **621 .31**
Engineering, No. 3842, September 1, p. 267.
Truck-type **switchgear for substations.** (1 100 words & fig.)

1939 **621 .431.72**
Engineering, No. 3842, September 1, p. 270.
3-ft. gauge diesel-engined locomotive. (900 words & fig.)

1939 **624 .51 (.73)**
Engineering, No. 3844, September 15, p. 295.
PAINE (C. E.). — **The Golden Gate bridge,** San Francisco. (3 500 words & fig.)

1939 **01**
Engineering, No. 3844, September 15, p. 300.
The International Conference on documentation. (2 200 words.)

Engineering News-Record. (New York.)

1939 **624 .1 (.73)**
Engineering News-Record, No. 5, August 3, p. 55.
FREEMAN (G. L.). — **Deep caisson work** at the Whitestone bridge. (3 000 words & fig.)

1939 **624 .51**
Engineering News-Record, No. 6, August 17, p. 46.
MOISSEIFF (L. S.). — Growth in **suspension bridge knowledge.** (3 500 words & fig.)

1939 **624 (.73) & 698 (.73)**
Engineering News-Record, No. 6, August 17, p. 51.
Paint maintenance on Bay bridge. (700 words.)

1939 **691**
Engineering News-Record, No. 6, August 17, p. 53.
ROWLEY (F. B.). — **Condensation and building insulation.** (1 600 words.)

1939 **624 .63 (.73)**
Engineering News-Record, No. 6, August 17, p. 57.
Curved concrete girders for Golden Gate bridge approach. (500 words & fig.)

1939 **624 .1 & 721 .1**
Engineering News-Record, No. 6, August 17, p. 61.
LEWIN (J. D.). — **Grouting with chemicals.** (1 400 words & fig.)

1939 **62 (01 & 624**
Engineering News-Record, No. 6, August 17, p. 68.
Earthquake resistant design. (2 500 words.)

1939 **625 .13 (.73)**
Engineering News-Record, No. 6, August 17, p. 73.
Shaft sinking on the Delaware aqueduct. (3 600 words & fig.)

Journal and Proceedings, Institution of Mechanical Engineers. (London.)

1939 **656 .1 & 656 .2**
Journal, Institution of Mechanical Engineers. September, p. 139.
Transport by railway and road. (4 000 words.)

1939 **62 (01 & 621 .7**
Proceedings, Institution of Mechanical Engineers, September, p. 433.
Second report of the **Pipe Flanges Research Committee.** (36 000 words, tables & fig.)

1939 **621 .7**
Proceedings, Institution of Mechanical Engineers, p. 475.
RONCERAY (E.). — The problem of **economic foundry production.** (Paper and discussion.) (18 000 words & fig.)

London & North Eastern Railway Magazine. (London.)

1939 **656 .254 (.42)**
London & North Eastern Railway Magazine, September, p. 522.
TRASK (E. D.). — **Automatic train control.** Edinburgh and Glasgow. (1 600 words & fig.)

Mechanical Engineering. (New York.)

1939 **621 .437**
Mechanical Engineering, September, p. 645.
MEYER (A.). — The **combustion-gas turbine.** (6 000 words & fig.)

1939 **625 .25**
Mechanical Engineering, September, p. 657.
McCUNE (J. C.). — **Braking high-speed trains** as an engineering problem. (3 400 words & fig.)

1939 **621**
Mechanical Engineering, September, p. 668.
HODGKINSON (F.). — **Steam-turbine efficien**
(2 200 words & fig.)

1939
Mechanical Engineering, September, p. 671.
History of scientific management in America. (6
words.)

1939 **656 (**
Mechanical Engineering, September, p. 683.
Railway-highway competition. (900 words.)

Modern Transport. (London.)

1939 **625 .258 (.42) & 656 .212.5 (.**
Modern Transport, No. 1066, August 19, p. 3.
First **rail-brake installation** on L. M. S. R. (3
words & fig.)

1939 **656 .1 (.**
Modern Transport, No. 1066, August 19, p. 5
No. 1068, September 2, p. 15.
Joint public services in Yorkshire. (5 500 words
fig.)

1939 **656 .222.1 (.44) & 656 .225 (.**
Modern Transport, No. 1066, August 19, p. 7.
GOURSAT (J.). — **Goods traffic** on French Railwa
(1 800 words & fig.)

1939 **656 .261 (.**
Modern Transport, No. 1066, August 19, p. 15.
CASTLEMAN (A. L.). — **Railway collection**
delivery. How the L. M. S. has increased its servi
(1 600 words & fig.)

1939
Modern Transport, No. 1066, August 19, p. 16.
Aluminium and its alloys. (1 400 words.)

1939 **621 .33 (.42 & 625 .42 (.**
Modern Transport, No. 1067, August 26, p. 3; No. 10
September 2, p. 5.
Railway electrification in north-east London. (3
words & fig.)

1939 **629 .113.62 (.**
Modern Transport, No. 1068, September 2, p. 3.
British **trolleybuses** for Canada. (1 400 words & fi

1939 **351 .81 (.**
Modern Transport, No. 1068, September 2, p. 6.
Transport in Northern Ireland. (2 500 words.)

1939 **629 .113.6 (.**
Modern Transport, No. 1068, September 2, p. 13.
Electric vehicles for retail deliveries. (1 300 wo
& fig.)

1939 **656 .132 (.42) & 656 .4 (.**
Modern Transport, No. 1069, September 9, p. 3.
City transport in Belfast. (2 300 words & fig.)

939 **623 (.42) & 656 (.42)**
dern Transport, No. 1069, September 9, p. 11.
ransport in wartime. (2 500 words.)

939 **621 .138 .5 (.42) & 656 .26 (.42)**
dern Transport, No. 1070, September 16, p. 3, and No. 1071, September 23, p. 5.
ailway locomotives and rolling stock. Eastleigh rks of Southern Railway. (3 000 words & fig.)

939 **629 .113 .5 (.42)**
dern Transport, No. 1071, September 23, p. 3.
arge capacity buses for Coventry. Four-wheel seater vehicles. (1 600 words & fig.)

ew Zealand Railways Magazine. (Wellington)

939 **385 (091 (.931)**
v Zealand Railways Magazine, No. 5, August, p. 10.
Vairoa Railway opening. (4 300 words & fig.)

Railway Age. (New York.)

939 **625 .143.2 (.73)**
lway Age, No. 6, August 5, p. 209.
IOORE (H. F.). — Rail investigation uncovers more uable data. (3 900 words & fig.)

939 **614 .7 (.73) & 621 .133.1 (.73)**
lway Age, No. 6, August 5, p. 213.
BJORKHOLM (J.). — What the Railroads are doing prevent smoke. (3 200 words.)

939 **656 .225 (.73)**
lway Age, No. 6, August 5, p. 219.
low the Southern Pacific handles fruit and ve- ables. (2 600 words & fig.)

939 **656 .28 (01 (.73)**
lway Age, No. 7, August 12, p. 245.
Operating lessons from train accidents. (4 200 words.)

939 **621 .139 & 625 .27**
lway Age, No. 7, August 12, p. 252.
What railroads should know about scrap. (3 200 rds & fig.)

939 **625 .142 (.73) & 625 .173 (.73)**
lway Age, No. 7, August 12, p. 258.
Table tells of tie renewals in 1938. (700 words & les.)

939 **659 (.73)**
lway Age, No. 8, August 19, p. 277.
PRICE (P. N.). — Making tomorrow's Railroad osters. Are the Railroads doing all they can to ld respect for the industry in the minds of children who will be tomorrow's shippers, passengers and ers. (1 800 words & fig.)

939 **625 .122 (.73)**
lway Age, No. 8, August 19, p. 280.
Meeting the challenge of floods in Southern Cali- nia. (4 600 words & fig.)

1939 **625 .243 (.73)**
Railway Age, No. 8, August 19, p. 287.
L. N. E. R. covered hopper cars for cement handling. (1 200 words & fig.)

1939 **656 .281 (.73)**
Railway Age, No. 8, August 19, p. 289.
« City of San Francisco » derailed. (1 100 words & fig.)

1939 **656 .261 (.73)**
Railway Age, No. 8, August 19, p. 290.
Trucks give flexible operation. (700 words.)

1939 **625 .243 (.73) & 625 .246 (.73)**
Railway Age, No. 9, August 26, p. 307.
Southern buys express cars of high-tensile steel. (600 words & fig.)

1939 **625 .231 (.71)**
Railway Age, No. 9, August 26, p. 308.
Box-baggage cars for Canadian National. (300 words & fig.)

1939 **625 .142.2 (.73) & 691 (.73)**
Railway Age, No. 9, August 26, p. 309.
Streamlining crosstie seasoning. (2 000 words & fig.)

1939 **385 .13 (.73)**
Railway Age, No. 9, August 26, p. 312.
KOONTZ (H. D.). — Could U. S. end discriminatory state taxation of railroads ? (3 300 words.)

1939 **654 (.73) & 656 .254 (.73)**
Railway Age, No. 9, August 26, p. 315.
Milwaukee utilizes teletype. (900 words & fig.)

Railway Engineering and Maintenance. (Chicago.)

1939 **625 .143.4 (.73) & 625 .172 (.73)**
Railway Engineering and Maintenance, August, p. 464.
Smooths high hardened rail ends by grinding. (3 000 words & fig.)

1939 **625 .142.2 (.73)**
Railway Engineering and Maintenance, August, p. 468.
Wood preservation slips slightly in 1938. (1 400 words, tables & fig.)

1939 **621 .9 (.73)**
Railway Engineering and Maintenance, August, p. 470.
Power tools gain favor in bridge work. (1 100 words & fig.)

1939 **721 .5 (.73)**
Railway Engineering and Maintenance, August, p. 473.
Milwaukee re-roofs old train shed rapidly. (1 300 words & fig.)

1939 **625 .144.4 (.73)**
Railway Engineering and Maintenance, August, p. 475.
Tie-bed shaper speeds tie renewals. (900 words & fig.)

1939 **625 .143.5**
Railway Engineering and Maintenance, August, p. 478.
Bottoms for tie plates. What are the relative advantages of flat-bottom, corrugated and ribbed tie plates. (1 400 words.)

1939 **625 .13**
Railway Engineering and Maintenance, August, p. 479.
Inspecting steel spans. How frequently should steel spans be inspected. What details should be examined. (800 words.)

1939 **625 .143.4**
Railway Engineering and Maintenance, August, p. 481.
Oiling rail joints. (1 300 words.)

Railway Gazette. (London.)

1939 **625 .258 (.42) & 656 .212.5 (.42)**
Railway Gazette, No. 7, August 18, p. 233.
Mechanisation of Toton Down marshalling yard, L. M. S. R. (7 500 words & fig.)

1939 **621 .13 (0 (.42)**
Railway Gazette, No. 8, August 25, p. 281.
Results of improvements to French locomotives. (2 200 words.)

1939 **621 .133 & 665 .882**
Railway Gazette, No. 8, August 25, p. 283.
The **blowpipe in boiler construction.** (500 words.)

1939 **656 .211.5 (.42)**
Railway Gazette, No. 8, August 25, p. 284.
New **arrival indicator** at Waterloo, Southern Railway. (400 words & fig.)

1939 **621 .431.73 & 662**
Railway Gazette, No. 8, August 25, p. 287.
Alternative **fuels for road transport engines.** (1 900 words.)

1939 **656 .261 (.42)**
Railway Gazette, No. 8, August 25, p. 289.
ROGERS (J. J.). — **L. N. E. R. London cartage organisation.** (1 200 words & fig.)

1939 **621 .131.3**
Railway Gazette, No. 9, September 1, p. 315.
POULTNEY (E. C.). — **The proportions of locomotive boiler tubes.** (2 800 words, tables & fig.)

1939 **621 .392**
Railway Gazette, No. 9, September 1, p. 318.
Welding research. (700 words.)

1939 **625 .2**
Railway Gazette, No. 9, September 1, p. 319.
Freight car brake riggings. (1 000 words & fig.)

1939 **625 .13 (.4**
Railway Gazette, No. 9, September 1, p. 321.
Reconstruction of Calder bridge, L. N. E. R. (1 1 words & fig.)

1939 **656 .257 (.4**
Railway Gazette, No. 9, September 1, p. 323.
Power signalling at Strasbourg. (900 words & fi

1939 **621 .133.3 & 621 .**
Railway Gazette, No. 9, September 1, p. 324.
Cutting superheater tubes. (300 words.)

1939 **621 .132.5 (.7**
Railway Gazette, No. 9, September 1, p. 325.
Old locomotives modernised to give more pow (600 words & fig.)

1939 **656 .2**
Railway Gazette, No. 10, September 8, p. 345.
The acceleration of passenger services. (3 500 word

1939 **656 .254 (.4**
Railway Gazette, No. 10, September 8, p. 348.
TRASK (E. D.). — **A. T. C. between Edinburgh a Glasgow.** (1 600 words & fig.)

1939 **621 .137.1 (.4**
Railway Gazette, No. 10, September 8, p. 350.
Mechanical stokers in France. (700 words & fig.)

1939 **621 .138.5 & 625**
Railway Gazette, No. 10, September 8, p. 352.
Securing locomotive parts by shrinkage. (500 word

1939 **621 .138.5 (.42) & 621 .9 (.4**
Railway Gazette, No. 10, September 8, p. 353.
Machining cylinder liners at Swindon, G. W. (400 words & fig.)

1939 **623 (.42) & 656 (.4**
Railway Gazette, No. 10, September 8, p. 358.
Transport services and the War. Activities in t control of Railways and in evacuation. (2 800 words

---

1939 **625 .143**
Railway Gazette, No. 10, September 8, p. 360.
The tank method of retarded rail cooling. (2 3 words.)

1939 **625 .144 .4 (.49**
The Railway Gazette, No. 11, September 15, p. 373.
Packing ballast under the rails. (700 words & fig

1939 **621 .1**
The Railway Gazette, No. 11, September 15, p. 374.
Periodical weighing of locomotives. (1 100 words.)

939 656 .254 (.485)
Railway Gazette, No. 11, September 15, p. 376.
T. C. on a Swedish private railway. (500 words ig.)

939 385 (091 (.438)
Railway Gazette, No. 12, September 22, p. 397.
he Polish railway system. (1 800 words & 1 map.)

1939 623 (.42) & 656 .1 (.42)
Railway Gazette, No. 12, September 22, p. 401.
Road transport and the war. (3 800 words.)

1939 629 .113 .4 (.42)
Railway Gazette, No. 12, September 22, p. 405.
eat Western Railway producer gas tractor. (600 rds & fig.)

1939 625 .1 (.73) & 625 .7 (.73)
Railway Gazette, No. 12, September 22, p. 406.
ghway on railway formation. (400 words & fig.)

1939 623 & 656
Railway Gazette, No. 12, September 22, p. 410.
Transport services and the war. (2 500 words.)

1939 621 .335 (.42)
lectric Railway Traction, p. 94, supplt. to the Railway Gazette, August 18.
Heavy electric shunting locomotives. (1 100 words fig.)

1939 621 .33 (.9)
lectric Railway Traction, p. 95, supplt. to the Railway Gazette, August 18.
The Melbourne electrified lines. (1 200 words & fig.)

1939 621 .335
lectric Railway Traction, p. 97, supplt. to the Railway Gazette, August 18.
The maintenance of electric locomotives. (1 100 ords.)

1939 621 .33
lectric Railway Traction, p. 98, supplt. to the Railway Gazette, August 18.
The economics of railway electrification. (1 700 ords.)

1939 621 .33 (.73)
lectric Railway Traction, p. 102, supplt. to the Railway Gazette, September 15.
The San Francisco - Oakland connecting railway. 2 900 words & fig.)

1939 621 .33 (.47)
lectric Railway Traction, p. 107, supplt. to the Railway Gazette, September 15.
Electrification in the Urals. (1 400 words & fig.)

1939 621 .431.72 & 621 .8
iesel Railway Traction, p. 134, supplt. to the Railway Gazette, September 1.
The traction gearbox and its control. (3 000 words fig.)

1939 621 .431.72 (.493)
Diesel Railway Traction, p. 138, supplt. to the Railway Gazette, September 1.
Diesel traction on the Belgian National Railways. (4 000 words & fig.) (To be continued.)

1939 621 .431.72 (.54)
Diesel Railway Traction, p. 146, supplt. to the Railway Gazette, September 1.
FREER (H. W.). — Some diesel experiences in Ceylon. (2 600 words.)

1939 621 .431.72 & 621 .8
Diesel Railway Traction, p. 148, supplt. to the Railway Gazette, September 1.
Fluid couplings. (500 words & fig.)

Railway Magazine. (London.)

1939 656 .222.1 (.42)
Railway Magazine, No. 507, September, p. 166.
ALLEN (C. J.). — British locomotive practice and performance. (6 000 words, tables & fig.)

1939 625 .258 (.42) & 656 .212 .5 (.42)
Railway Magazine, No. 508, October, p. 235.
Mechanisation at Toton, L. M. S. R. (2 300 words & fig.)

1939 656 .222 .1 (.42)
Railway Magazine, No. 508, October, p. 257.
The fastest trains in Great Britain, 1939. (1 200 words & tables.)

1939 385 (09 (.45)
Railway Magazine, No. 508, October, p. 269.
ELLIS (C. H.). — The Italian Railways, 1839-1939. (4 400 words & fig.)

Railway Mechanical Engineer. (New York.)

1939 625 .2 (01 & 625 .212
Railway Mechanical Engineer, August, p. 307.
SMITH (F. H.). — An investigation of railway wheel tread contours. (3 700 words & fig.)

1939 621 .132.3 (.73)
Railway Mechanical Engineer, August, p. 311.
Unusual details on World's Fair locomotive. (3 600 words & fig.)

1939 625 .212 (.73) & 625 .26 (.73)
Railway Mechanical Engineer, August, p. 323.
Missouri Pacific reorganizes Sedalia wheel shop work. (1 500 words & fig.)

1939 625 .212 (.73)
Railway Mechanical Engineer, August, p. 326.
Wheel grinder operates on new principle. (1 300 words & fig.)

1939 **621 .138 (.73)**
Railway Mechanical Engineer, August, p. 332.
PEABODY (R. T.). — Method of **shrinking locomotive parts.** (800 words & fig.)

1939 **621 .133.2 (.73)**
Railway Mechanical Engineer, August, p. 334.
CLAYTON (J.). — British and French **staybolts of Monel metal.** (2 500 words & fig.)

Railway Signaling. (Chicago.)

1939 **656 .256.3 (.73)**
Railway Signaling, August, p. 435.
Signaling the Pennsylvania to New York World's Fair. (3 000 words & fig.)

1939 **625 .258 (.73)**
Railway Signaling, August, p. 438.
Car retarder repair program on the Burlington. (1 900 words & fig.)

1939 **656 .259 (.73)**
Railway Signaling, August, p. 441.
Crossing protection at Chatham, Ont., on the Canadian Pacific. (1 800 words & fig.)

1939 **625 .162 (.73) & 656 .259 (.73)**
Railway Signaling, August, p. 444.
Monon installs **gates.** (2 500 words & fig.)

1939 **656 .25 & 654**
Railway Signaling, August, p. 447.
JONES (L. M.). — **Inductive disturbances to telegraph circuits.** (6 000 words & fig.)

South African Railways and Harbours Magazine. (Johannesburg.)

1939 **621 .132.5 (.68)**
South African Railways & Harbours Magazine, August. p. 1033.
Mechanical Department's activities. The fitting of **standard boilers** to classes 15 and 15 A locomotives. (1 600 words & fig.)

The Locomotive. (London.)

1939 **621 .132.3 (.54)**
The Locomotive, No. 564, August 15, p. 215.
Pacific Locomotive Committee report. (1 200 words.)

1939 **621 .132.3 (.59)**
The Locomotive, No. 564, August 15, p. 216.
New **metre-gauge « Pacific » locomotives** for French East Indies. (1 100 words & fig.)

1939 **621 .135 (01**
The Locomotive, No. 564, August 15, p. 222.
The disturbing forces in a locomotive. (2 300 words.)

1939 **385 (091 (.492) & 621 .132.1 (.49**
The Locomotive, No. 564, August 15, p. 224.
DERENS (L.). — **The Dutch State Railways Company.** (2 800 words & fig.) (To be continued.)

1939 **621 .1**
The Locomotive, No. 564, August 15, p. 228.
PHILLIPSON (E. A.). — **The steam locomotive traffic.** (1 700 words & fig.) (To be continued.)

1939 **621 .132.8 (.73) & 621 .335 (.7**
The Locomotive, No. 564, August 15, p. 231.
Union Pacific **5 000-h.p. steam-electric locomotiv** (1 800 words & fig.)

1939 **621 .135.2 (.4**
The Locomotive, No. 564, August 15, p. 232.
Locomotive wheel centres. (1 800 words & fig.)

1939 **385 (091 & 621 .13**
The Locomotive, No. 564, August 15, p. 238.
Some aspects of **railway progress** as they affect t **locomotive department.** (1 700 words.)

1939 **625 .2**
The Locomotive, No. 565, September 15, p. 252.
SANDERS (L. I.). — **Carriage and wagon design a construction.** (2 200 words & fig.) (To be continued

---

1939 **621 .135 .2 (.7**
The Locomotive, No. 565, September 15, p. 255.
SIMPSON (C. R. H.). — Some **modern America wheels** (900 words & fig.)

1939 **621 .132 .1 (.4**
The Locomotive, No. 565, September 15, p. 262
ELLIS (C. H.). — **Italian locomotive notes.** (3 3 words & fig.)

1939 **621 .133**
The Locomotive, No. 565, September 15, p. 265.
ELL (G. O.). — Development of **coned boiler barrel** (1 600 words & fig.)

The Oil Engine. (London.)

1939 **621 .431.72 (.4**
The Oil Engine, August, p. 109.
World's record railway speed. (200 words & fig.)

1939 **621 .431.72 & 656 .2**
The Oil Engine, August, p. 114.
The services of the **diesel railcar.** (3 000 words.)

1939 **621 .431.72 & 621**
The Oil Engine, August, p. 116.
S. L. M.-Winterthur **transmission development.** (1 0 words & fig.)

1939 621 .8
e Oil Engine, August, p. 120.
ndustrial clutches for **power transmission.** (1 900 rds & fig.)

1939 621 .431.72
e Oil Engine, August, p. 123.
New **vis-à-vis rail traction engine.** (600 words & fig.)

1939 621 .431.72 (.42)
e Oil Engine, August, p. 128.
The **railway's function and the country's need.** (1 600 rds.)

1939 621 .431.72 (.73
e Oil Engine, August, p. 132.
MANN (Ch. F.). — **The ninth Burlington Zephyr in.** (500 words & fig.)

1939 621 .431.72 (.493) & 625 .62 (.493)
e Oil Engine, August, p. 133.
Diesel trains in the Netherlands. (400 words & fig.)

1939 385 .114 (.54) & 621 .431 .72 (.54)
e Oil Engine, N° 77, September, p. 143.
British **diesel trains in service.** (1 200 words.)

1939 621 .436 (.42)
e Oil Engine, No. 77, September, p. 152.
British oil engines for all types of service. (4 200 rds & fig.)

1939 621 .436
e Oil Engine, No. 77, September, p. 159.
Accessories for diesel engine users. (5 800 words fig.)

In Italian.

Annali dei lavori pubblici. (Roma).

1939 624 & 669
nali dei lavori pubblici, luglio, p. 685.
SIMONE (D. de). — Possibilità di **impiego delle he leggere** nelle costruzioni civili. (5 000 parole & fig.)

1939 62. (01 & 691
nali dei lavori pubblici, luglio, p. 712.
FERRERO (C. & A.). — I regoli « Fer » per il cal- o delle sezioni rettangolari in **cemento armato** sog- te a flessione semplice, a pressoflessione e a tenso- ssione. (2 200 parole & fig.)

L'Ingegnere. (Roma.)

1939 691
ngegnere, agosto, p. 695.
COLONNETTI (G.). — **Cemento armato** con acciai alto limite elastico. (2 000 parole & fig.)

1939 669 .1
L'Ingegnere, agosto, p. 698.
RAVIGNANI (G. L.). — Gli **acciai inossidabili** 18-8 al cromo-nichel. (3 400 parole & fig.)

Rivista tecnica delle ferrovie italiane. (Roma.)

1939 625 .5 (.45)
Rivista tecnica delle ferrovie italiane, 15 agosto, p. 79.
FUORTES (G. C.) & NOTARRARTOLO (F.). — **Funivia** Piano S. Umberto-Piano Rosà. (7 000 parole & fig.)

1939 625 .19 (.45)
Rivista tecnica delle ferrovie italiane, 15 agosto, p. 100.
BONA (P.) & CLERICI BAGOZZI (A.). — Condizioni statiche dei **muri di sostegno** adottati per la linea Arona-Domodossola e confronto con i tipi normali delle Ferrovie dello Stato. (4 000 parole & fig.)

1939 625 .142.4
Rivista tecnica delle ferrovie italiane, 15 agosto, p. 113.
PERFETTI (A.). — Prove in cantiere su **travetti in calcestruzzo** debolmente armati. (2 500 parole & fig.)

Trasporti e lavori pubblici. (Roma.)

1939 623
Trasporti e lavori pubblici, luglio, p. 243.
CORBELLINI (G.). — Gli **impianti ferroviari di fronte alle offese aeree.** (1 700 parole.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 624 .2
De Ingenieur, Nr 34, 25 Augustus, p. B. 127.
LEM (D. Y.). — Kip en doorbuiging van **stalen balken.** (4 800 woorden, tabellen & fig.)

1939 625 .13 (.492)
De Ingenieur, Nr 9, 1 September, p. Bt. 67.
VAN BRUGGEN (J. P.). — **Betontechniek** bij den Maastunnelbouw te Rotterdam. (6 500 woorden & fig.)

1939 62. (01 & 721 .9
De Ingenieur, Nr 9, 1 September, p. Bt. 75.
EMMEN (J.). — Beproeving van twee **betonvloeren gewapend met speciaal staal :** koud gerekt st. 37, Sv 36 (Krupp Isteg staal). (2 400 woorden & fig.)

1939 62. (01
De Ingenieur, Nr 36, 8 September, p. A. 335.
VAN DER NEUT (A.) & PLANTEMA (F. J.). — De **torsie van staven** met enkelvoudig samenhangende langwerpige doorsneden. (6 600 woorden & fig.)

1939 **385 .12 (.492)**
De Ingenieur, Nr 37, 15 September, p. T. 51.
WOLTERBEEK (C.). — De **kapitaalsinvesteeringen** door de overheid in het belang van het verkeer. (16 800 woorden & 3 tabellen.)

Spoor- en Tramwegen. (Utrecht.)

1939 **385.** (06.4 (.73)
Spoor- en Tramwegen, Nr 18, 2 September, p. 403.
VAN STAPPEN (J.). — De **spoorwegen** op de World's Fair in New-York. (2 100 woorden & fig.)

1939 **625 .14 (.492)**
Spoor- en Tramwegen, Nr 18, 2 September, p. 407.
DEENIK (J. F.). — Proeven ter bepaling van de **stijfheid van verschillende bovenbouwsystemen** bij de Nederlandsche Spoorwegen. (2 200 woorden & fig.)

1939 **385.** (09 (.73)
Spoor- en Tramwegen, Nr 18, 2 September, p. 410.
PRINS (R.). — De **toestand** der Amerikaansche spoorwegen. (1 900 woorden.)

1939 **656 .234 (.492)**
Spoor- en Tramwegen, Nr 18, 2 September, p. 412.
GROOT (A. M.). — De nieuwe **passe-partoutbiljetten** der Nederlandsche Spoorwegen. (900 woorden & fig.)

1939 **385.** (09.3 (.492)
Spoor- en Tramwegen, Nr 19, 16 September, p. 429.
Honderd jaar Nederlandsche Spoorwegen.(4 000 woorden & fig.)

1939 **385**
Spoor- en Tramwegen, Nr 19, 16 September, p. 473.
JAGT (A. G.). — Spoorwegen en hun **toekomstmogelijkheden.** (9 500 woorden & fig.)

1939 **656 .25 (.49**
Spoor- en Tramwegen, Nr 19, 16 September, p. 486.
VAN AALDEREN (J.). — Het **seinwezen** der Nede landsche Spoorwegen bij het 100 jarig bestaan. (1 7 woorden & fig.)

1939 **621 .431.72 (.49**
Spoor- en Tramwegen, Nr 19, 16 September, p. 490.
BOLLEMAN KIJLSTRA (E.). — De nieuwe **vijfw gen-treinstellen** met D. E. tractie. (1 600 woorden & fig

1939 **621 .33 (.49**
Spoor- en Tramwegen, Nr 19, 16 September, p. 492.
VAN LESSEN (J.). — De ontwikkeling der **ele trische tractie** op de Nederlandsche Spoorwegen. (3 2 woorden & fig.)

In Portuguese.

Revista das Estradas de ferro. (Rio de Janeiro

1939 **6**
Revista das Estradas de ferro, n° 334, 15 julio, p. 23
GUDIN (E.). — **Coordenação de transportes terre tres.** (1 200 palavras.)

1939 **385 (.8**
Revista das Estradas de ferro, n° 334, 15 julio, p. 23
O **futuro das Estradas de ferro no Brasil.** (1 700 p lavras.)

In Rumanian.

(= 599)

Revista tecnica C. F. R. (Bucuresti.)

1939 **656 .254 = 5**
Revista tecnica C. F. R., January-February, p. 1.
JONESCU (A. C.). — **Locomotive cab signals.** (18 0 words & fig.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

MONTHLY BIBLIOGRAPHY OF RAILWAYS [1].

PUBLISHED UNDER THE SUPERVISION OF

P. GHILAIN,

General Secretary of the Permanent Commission of the International Railway Congress Association.

(DECEMBER 1939)

016. 385. (02

I. — BOOKS.

In French.

939 621 .392
es soudures par résistance électrique.
ruxelles, A. De Boeck, 265, rue Royale; Paris et
e, Ch. Béranger. 1 fascicule, 87 pages, 16 pages
texte de photographies et figures. (Prix : 20 fr.
es.)

In German.

939 62. (01 & 621 .392
ie Bearbeitung von Fragen der Schweisstechnik an
deutschen Materialprüfungsämtern.
erlin, J. Springer. 1 Band, 95 Seiten mit 243 Abbil-
gen. (Preis : 19.60 R.M.)

939 656 .237 (.43)
inanz- und Rechnungswesen der Deutschen Reichs-
n.
erlin, Beamtenpresse, G. m. b. H. 2. Auflage. 1 Band.
eis : 2.85 R.M.)

939 624 .6
GER (A.).
ntersuchung eines eingespannten Gewölbes und einer
völbereihe unter Berücksichtigung der Hintermaue-
g als mittragende Masse.
erlin W. 9, Wilhelm Ernst & Sohn. 1 Heft, 46 Sei-
21 Abbildungen. (Preis : 5.80 R.M.)

939 621 .82
RGENSMEYER (W.).
estaltung von Wälzlagerungen.
erlin, J. Springer. 1 Band, 92 Seiten und 134 Ab-
ungen. (Preis : 4.80 R.M.)

939 624 .2
PFERER (W.).
abellen der Maximalquerkräfte und Maximalmo-
nte durchlaufender Träger mit 2, 3 und 4 Offnungen
schiedener Weite bei gleichmässig verteilter Bela-
ng.
erlin, Wilhelm Ernst & Sohn. 1 Band, 131 Seiten
18 Textabbildungen. (Preis : 6 R.M.)

1939 621 .131.2
Liechty's Lokomotivsystem für grosse Fahrgeschwindigkeiten und seine Vorgeschichte.
Bern, A. Francke, A. G. 1 Heft, 59 Seiten und 24 Tafeln Lokomotivbildern. (Preis : 5.20 R.M.)

1939 625 .214
MÄKELT (H.).
Untersuchungen von Pressstoff-Achslagern für Schienenfahrzeuge.
Berlin, V-D-I-Verlag, G. m. b. H. 1 Heft, 53 Seiten, 146 Abbildungen und 6 Zahlentafeln. (Preis : 6 R.M.)

In English.

1939 62. (01 & 669 .1
DOLAN (T. J.) and BROWN (R. L.).
An investigation of wrought steel railway car wheels. (University of Illinois Bulletin, No. 101, August 15.)
Urbana : published by the University, 70 pp. Illustrated. (Price : 70 cents.)

1939 385
GARBUTT (P. E.).
A survey of Railway Development and Practice.
London : Arthur H. Stockwell, Ltd., 29, Ludgate Hill, E. C. 4. 112 pages, 7 1/4 in. × 5 in. Bound in cloth. (Price : $ 0.85.)

1939 624 .2
JENSEN (V. P.).
Moments in simple span bridge slabs with stiffened edges. (University of Illinois Bulletin, No. 97, Aug. 1.)
Urbana : published by the University. 108 pp. (Price : $ 1.00.)

1939 62 & 65
LESTER (B.).
Applied Economics for Engineers.
New York: John Wiley & Sons, Inc. 464 pages, 6 in. × 9 in. Bound in cloth. (Price : $ 4.)

1939 621 .13 (02
Locomotive Engineer's pocket book, 39th edition.
London : The Locomotive Publishing Co., Ltd. (Price : 3 s. 6 d.)

(1) The numbers placed over the title of each book are those of the decimal classification proposed by the Railway Congress jointly with the Office Bibliographique International, of Brussels. (See « Bibliographical Decimal Classification as applied to Railway Science », by L. WEISSENBRUCH, in the number for November 1897, of the *Bulletin of the International Railway Congress*, 1509).

1939 **62. (01 & 691**

NEWMARK (N. M.) and LEPPER (H. A.).
Tests of plaster-model slabs subjected to concentrated loads. (University of Illinois Bulletin, No. 84, June 16.)
Urbana : published by the University. 56 pp. (Price : 60 cents.)

1939 **62. (01 & 691**

RICHART (F. E.) and KLUGE (R. W.).
Tests of reinforced concrete slabs subjected to concentrated loads. (University of Illinois Bulletin, No. June 20.)
Urbana : published by the University. 78 (Price : 80 cents.)

1939 **38 (.**

VAN METRE (T. W.).
Transportation in the United States.
Chicago : The Foundation Press, Inc. 403 pa 9 in. × 6 in. Bound in cloth. (Price : $ 3.75.)

[016. 385. (05]

II. — PÉRIODICALS.

In French.

Annales des Ponts et Chaussées (Paris).

1939 **624**

Annales des ponts et chaussées, mai, p. 541.
MASSELIN. — Flexion transversale des **ponts à poutres multiples.** (6 500 mots et fig.)

Bulletin des transports internationaux par chemins de fer. (Berne.)

1939 **385 .63**

Bull. des transp. intern. par ch. de fer, septembre, p. 369.
KRAFFT (A.). — Le matériel roulant des chemins de fer est-il insaisissable quelle que soit la nature de la créance en litige. (3 300 mots.)

1939 **313 .385 (.485)**

Bull. des transp. intern. par ch. de fer, septembre, p. 399.
Les **chemins de fer suédois** en 1937. (600 mots.)

Bulletin technique de la Suisse romande. (Vevey.)

1939 **62. (01 & 669**

Bull. techn. de la Suisse romande, n° 19, 23 septembre, p. 245.
FLEURY (R. de). — Les changements d'échelle ouverts aux possibilités de la mécanique moderne par les **métaux légers.** (4 600 mots & fig.)

Génie civil. (Paris.)

1939 **621 .132.5 (.73)**

Génie civil, n° 2980, 23 septembre, p. 249.
Nouvelles locomotives à vapeur américaines de grande puissance. (2 700 mots & fig.)

1939 **G31**

Génie civil, n° 2982, 7 octobre, p. 285.
La **résistance à la corrosion** du magnésium, du calcium et des alliages ultra-légers. (1 400 mots.)

1939 **621 .431**

Génie civil, n° 2984, 21 octobre, p. 307.
Moteur à combustion interne, système Winton. (1 700 mots & fig.)

1939 **625 .143.2**

Génie civil, n° 2985, 28 octobre, p. 326.
L'amélioration de la **qualité des rails** fabriqués en Angleterre, dans ces dernières années. (1 200 mots & fig.)

La Science et la Vie. (Paris.)

1939 **62.**

La Science et la Vie, octobre, p. 264.
BRACHET (Ch.). — Les **essais optiques** sur maque révèlent les efforts dangereux au cœur des **ouvra d'art.** (5 200 mots & fig.)

Les transports modernes. (Paris.)

1939 **621 .135.2 & 625 .**

Les transports modernes, juin, p. 75.
HAGUENAUER (J.). — Etude des **organes de liai** entre les essieux montés et le châssis des véhicules chemin de fer. (6 200 mots & fig.)

L'Industrie des voies ferrées et des transports automobiles. (Paris.)

1939 **656 .**

L'Ind. des voies ferrées et des transp. autom., a p. 203.
LESAGE (A.). — Etude critique des **méth actuelles en matière de perception et de contrôle recettes** à bord des autobus interurbains, des transp urbains et suburbains et des autorails des voies se daires. (17 000 mots & fig.)

1939 **656 .136 (**

L'Ind. des voies ferrées et des transp. autom., a p. 225.
Les **trolleybus** dans le « monde ». (1 200 mots.)

L'Ossature métallique. (Bruxelles.)

1939 **624 .51 (.4**

L'Ossature métallique, octobre, p. 415.
WAGNER (J.). — La construction du nouveau « Reichsbrücke » sur le Danube à Vienne. (2 200 m & fig.)

1939 **625 .1 (.493) & 625 .13 (.4**

L'Ossature métallique, octobre, p. 436.
Les **travaux de la jonction** Nord-Midi à Bruxe (1 000 mots & fig.)

Revue générale des chemins de fer. (Paris.

1939 **625 .1 (**

Revue générale des chemins de fer, 1er septen p. 145.
GENDREAU. — La plus récente **voie ferrée ouver l'exploitation** à Madagascar (Fianarantsoa-Côte I (1 800 mots & fig.)

1939 **385 .52 (.44) & 651 (.44)**

Revue générale des chemins de fer, 1er septembre, p. 156.

VISNÈS. — Application des **machines à statistiques** à l'établissement de la solde du personnel de l'exploitation de la Région du Nord. (5 000 mots & fig.)

1939 **621 .138.1 (.44)**

Revue générale des chemins de fer, 1er septembre, p. 168.

MARLET et LHOTTE. — Le **dépôt** et les garages « Joncherolles ». (3 800 mots & fig.)

Revue universelle des Mines. (Liége.)

1939 621 .2

Revue universelle des mines, octobre, p. 501.

LAMARNEFFE (A. de). — **Flambage par torsion.** (3800 mots & fig.)

1939 **62 (01 & 669**

Revue universelle des mines, octobre, p. 511.

GUILLET (L.). — Les impuretés solides dans les **métaux.** (5 500 mots & fig.)

In German.

Archiv für Eisenbahnwesen. (Berlin.)

1939 **656 .235**

Archiv für Eisenbahnwesen, März/April, S. 265.

SPIESS (W.). — Die Betriebswissenschaft des **Eisenbahngütertarifs.** (32 000 Wörter.)

1939 **656 (.44)**

Archiv für Eisenbahnwesen, März/April, S. 395.

Der Stand der **Gleichordnung** von Eisenbahn- und Kraftwagenverkehr in Frankreich. (3 800 Wörter.)

1939 **385. (09 (.92)**

Archiv für Eisenbahnwesen, März/April, S. 495.

REITSMA (S. A.). — Die **Eisenbahnen** in Niederländisch-Indien. (4 200 Wörter & Karte.)

1939 **385. (09 (.489)**

Archiv für Eisenbahnwesen, Mai/Juni, S. 557.

KNUTZEN (P.). — Die **Hauptlinien in der Entwicklung** der Dänischen Staatsbahnen in der neuesten Zeit. (15 500 Wörter & Karte.)

1939 **385. (09.3 (.492)**

Archiv für Eisenbahnwesen, Mai/Juni, S. 663.

OVERMANN. — **Hundert Jahre Eisenbahnen** in den Niederlanden. (15 000 Wörter & Karte.)

1939 625 .232

Archiv für Eisenbahnwesen, Mai/Juni, S. 737.

DOST (O.). — Ständige militärische **Lazarettzüge,** (3 400 Wörter & Abb.)

1939 **385 .113 (.439)**

Archiv für Eisenbahnwesen, Mai/Juni, S. 763.

WEHDE-TEXTOR. — Die **Königlich Ungarischen Staatsbahnen** in den Geschäftsjahren 1935/36 und 1936/37. (1 900 Wörter.)

Der Bahn-Ingenieur. (Berlin).

1939 **625 .13 (.43)**

Der Bahn-Ingenieur, Nr. 39/40, 24. September/1. Dezember, S. 649.

MARKIESKA (G.). — Vom Entwurf einer **Strassenunterführung** und ihrem Bau im Betriebe. (5 000 Wörter & Abb.)

1939 **385 .4 (.43)**

Der Bahn-Ingenieur, Nr. 41/42, 8./15. Oktober, S. 665.

VOLLMER (W.). — Das neue **Reichsbahngesetz.** (5 200 Wörter.)

1939 **625 .162 (.43)**

Der Bahn-Ingenieur, Nr. 41/42, 8./15. Oktober, S. 671.

GENRICH. — Gesetz über **Kreuzungen von Eisenbahnen und Strassen.** (3 000 Wörter.)

Elektrische Bahnen. (Berlin.)

1939 **621 .335 (.43)**

Elektrische Bahnen, August, S. 199.

HERMLE. — Die **Steuerung der Reichsbahn-Schnellzugslokomotive Reihe E 19** mit elektrischer Zusatzbremse. (3 000 Wörter & Abb.)

Glasers Annalen. (Berlin.)

1939 **625 .213**

Glasers Annalen, Heft 17, 1. September, S. 227.

KAAL (W.). — Die **magnetische Abfederung.** (4 000 Wörter & Abb.)

1939 **621 .133.3 & 621 .392**

Glasers Annalen, Heft 18, 15. September, S. 239.

SPLETT. — Neues **Vorschuhschweissverfahren für Lokomotivkessel-Heizrohre.** (4 000 Wörter & Abb.)

Gleistechnik und Fahrbahnbau (Karlsruhe.)

1939 **625 .144.1**

Gleistechnik und Fahrbahnbau, Heft 17/20, 15. Oktober, S. 141.

AHLERT (W.). — Der **Langschienenoberbau** bei Privateisenbahnen und Kleinbahnen. (2 400 Wörter & Abb.)

1939 **625 .113**

Gleistechnik und Fahrbahnbau, Heft 17/20, 15. Oktober, S. 147.

WEIHS (L.). — Beitrag zum **Nalenz-Höfer-Verfahren.** (2 400 Wörter & Abb.)

Organ für die Fortschritte des Eisenbahnwesens. (Berlin.)

1939 **621 .132.3 (.43) & 621 .132.5 (.43)**

Organ für die Fortschr. des Eisenbahnw., Heft 18, 15. September, S. 353.

WAGNER (R. P.). — Die **neue Lokomotivtypenreihe der Reichsbahn** für veränderlichen Achsdruck. (5 000 Wörter & Abb.)

1939 **621 .132.6 (.43)**

Organ für die Fortschr. des Eisenbahnw., Heft 18, 15. September, S. 361.

LOTTER (G.). — Die **1' D 1' Heissdampf Personenzug-Tenderlokomotive** der Tegernseer Eisenbahn. (2 600 Wörter & Abb.)

1939 **621 .431.72**

Organ für die Fortschr. des Eisenbahnw., Heft 18, 15. September, S. 364.

BOETTCHER. — Unterhaltung von **Verbrennungstriebwagen.** (2 300 Wörter.)

1939 **385. (09.3 (.492)**

Organ für die Fortschr. des Eisenbahnw., Heft 19, 1. Oktober, S. 369.

REITSMA (S. A.). — Zum **Hundertjährigen Bestehen** der Niederländischen Eisenbahnen. (3 200 Wörter & Abb.)

1939 **621 .138.1 (.43)**

Organ für die Fortschr. des Eisenbahnw., Heft 19, 1. Oktober, S. 376.

SCHULTHEISS & KURZ. — **Heizanlage aus Lokomotivkesseln** im Bahnbetriebswerk Nürnberg. (3 200 Wörter & Abb.)

1939 **625 .23**

Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 385.

TASCHINGER (O.). — **Festigkeits- und Zerstörungsversuche** an Wagenkästen. (9 400 Wörter & Abb.)

1939 **385. (064 (.494)**

Organ für die Fortschr. des Eisenbahnw., Heft 20, 15. Oktober, S. 397.

LÜBSEN (W.). — Die **Eisenbahnfahrzeuge** auf der schweizerischen Landesausstellung Zürich 1939. (2 800 Wörter & Abb.)

Zeitschrift des Vereines deutscher Ingenieure (Berlin.)

1939 **621 .436**

Zeitschr. des Ver. deutsch. Ing., Nr. 39, 30. September, S. 1073.

ZINNER (K.). — Neuere Anschauungen über den **Zündvorgang im Dieselmotor.** (5 700 Wörter & Abb.)

1939 **669 .1**

Zeitschr. des Ver. deutsch. Ing., Nr. 40, 7. Oktober, S. 1109.

Verhalten des Stahles in der Wärme unter Zug-Druck-Wechselbeanspruchung. (1 100 Wörter & Abb.)

1939 **625 .2 : 625 .62 (.42)**

Zeitschr. des Ver. deutsch. Ing., Nr. 43, 28. Oktober, S. 1165.

Zweistöckige Strassenbahnwagen. (800 Wörter & Abb.)

Zeitschrift für das gesamte Eisenbahn-Sicherungs- und Fernmeldewesen. (Berlin.)

1939 **656 .256**

Zeitschr. für das ges. Eisenb.-Sicherungs- und Fernmeldew., Nr. 13, 10. Oktober, S. 139.

SCHMITZ (W.). — Der **Streckenblock** bei elektrischen Stellwerken. (1 900 Wörter & Abb.)

Zeitung des Vereins mitteleuropäischer Eisenbahnverwaltungen. (Berlin.)

1939 **625 .4 (.4**

Zeitung des Ver. Mitteleurop. Eisenbahnwes., Heft 28. September, S. 724.

WEHDE-TEXTOR. — Die Moskauer **Untergrundbahn.** (2 000 Wörter.)

1939 **623 (.4**

Zeitung des Ver. Mitteleurop. Eisenbahnwes., Heft 5. Oktober, S. 734.

Kriegsvorbereitungen der englischen Eisenbahn (1 800 Wörter.)

1939 **385. (061**

Zeitung des Ver. Mitteleurop. Eisenbahnw., Heft 12. Oktober, S. 741.

Aus der Tätigkeit der Ständigen Ausschüsse d **Vereins Mitteleuropäischer Eisenbahnverwaltunge** (4 800 Wörter.)

1939 **385 .15 (.8**

Zeitung des Ver. Mitteleurop. Eisenbahnverw., Heft 19. Oktober, S. 759.

Eisenbahnverstaatlichung in Argentinien. (2 700 Wörter.)

1939 **625 .23 (**

Zeitung des Ver. Mitteleurop. Eisenbahnverw., Heft 26. Oktober, S. 766.

LILLIENDAHL (A.). — Versuche zur **Schaffung bequemer Sitze für die dritte Wagenklasse.** (2 700 Wörter & Abb.)

In English.

Electrical Industries. (London.)

1939 **629 .113.65 (.42**

Electrical Industries, October, p. 411.

FARMER (A. L.). — **Electric battery vehicles** (1 500 words & fig.)

Engineer. (London.)

1939 **621 .132.1 (.42) & 656 .222.1 (.42**

Engineer, No. 4368, September 29, p. 318, No. 4369, October 6, p. 342 and No. 4370, Octiber 13, p. 366.

LIVESAY (E. H.). — **Scottish locomotive experiences** (21 000 words & fig.) (To be continued).

1939 **621 .43**

Engineer, No. 4368, September 29, p. 322.

BELLAMY (R. G.). — **Exhaust gas analysis and air fuel ratio.** (3 000 words.)

1939 **625 .13 (.492**

Engineer, No. 4369, October 6, p. 348.

The Meuse **tunnel** at Rotterdam. (2 200 words & fig.

1939 **621 .3**

Engineer, No. 4370, October 13, p. 374.

Electrical remote control. (1 500 words & fig.)

Engineering. (London.)

39 **621 .132.3 (06 (.54)**
neering, No. 3845, September 22, p. 336, No. 3846, September 29, p. 364 and No. 3848, October 13, p. 417.
e report of the **Pacific Locomotive Committee.** 00 words & fig.) (To be continued).

---

39 **624 .51 (.73)**
neering, No. 3846, September 29, p. 347 and No. 3848, October 13, p. 401.
INE (C. E.). — The Golden Gate **bridge,** San cisco. (5 700 words & fig.)

---

39 **621 .392 (.42)**
neering, No. 3846, September 29, p. 350.
e use of **welding in railway station reconstruction.** 0 words & fig.)

---

39 **621 .88**
neering, No. 3846, September 29, p. 366.
e speed **nut.** (1 100 words.)

---

39 **621 .431**
neering, No. 3846, September 29, p. 368.
UER (S. G.). — **Ignition lag in compression-igni- engines.** (2 500 words & fig.)

---

39 **62 (01**
neering, No. 3847, October 6, p. 379.
ery-Schenk **push-pull fatigue-testing machine.** 0 words.)

---

39 **624**
neering, No. 3847, October 6, p. 380.
aining in emergency bridge-erection. (1 600 words.)

---

39 **621 .392**
neering, No. 3847, October 6, p. 382.
cent **electric welders.** (3 300 words & fig.)

---

39 **621 .43 & 662**
neering, No. 3847, October 6, p. 387.
ernative fuels for motor vehicles. (2 400 words.)

---

39 **621 .31**
neering, No. 3847, October 6, p. 390.
e Paris **High-Tension Conference.** (5 000 words .)

---

39 **621 .7 & 669**
neering, No. 3847, October 6, p. 397.
CKIN (J. H.) and ANDERSON (G. A.). — Notes he **machining of aluminium and its alloys.** (5 800 s & fig.)

---

39 **623 & 625 .42**
neering, No. 3848, October 13, p. 420.
ood prevention in the Tube Railways. (1 600 s.)

Engineering News Record (New York).

1939 **625 .11 (.73)**
Engineering News-Record, No. 13, September 28, p. 48.
Rail relocation around Shasta reservoir. (2 500 words, tables & fig.)

1939 **62 (01 & 721 .9**
Engineering News-Record, No. 13, September 28, p. 57.
GUMENSKY (D. B.). — **Concrete corners in tension.** (700 words & fig.)

Modern Transport (London).

1939 **629 .113.4 & 662**
Modern Transport, No. 1072, September 30, p. 3.
Producer-gas vehicles. Use of suitable fuel. (1 700 words & fig.)

1939 **621 .33 (.42) & 625 .42 (.42)**
Modern Transport, No. 1072, September 30, p. 4.
Railway electrification in North-East London. (3 000 words & fig.)

1939 **621 .138.5 (.42) & 625 .26 (.42)**
Modern Transport, No. 1073, October 7, p. 3.
Railway locomotives and rolling stock repairs. (2 100 words & fig.)

1939 **351 .812 & 656 .23 (.44)**
Modern Transport, No. 1073, October 7, p. 5.
DELANNEY (L.). — **Goods transport** by rail and road. — No. 1. **Rates** and **regulations** in **France** (Copenhagen Congress, International Chamber of Commerce). (1 800 words.)

1939 **388 (.42)**
Modern Transport, No. 1073, October 7, p. 6.
Municipal transport in wartime. (1 300 words.)

1939 **621 .335 (.41)**
Modern Transport, No. 1073, October 7, p. 7.
Battery electric railcars in Eire. (2 100 words.)

1939 **629 .113.4 (.42)**
Modern Transport, No. 1073, October 7, p. 11.
Road vehicle industry. (1 700 words & fig.)

1939 **385 .5**
Modern Transport, No. 1074, October 14, p. 3.
THOMAS (T. E.). — **Staff appointments and public relations.** (1 900 words.)

1939 **629 .113.65**
Modern Transport, No. 1074, October 14, p. 4.
Electric delivery vehicles in wartime. (1 500 words & fig.)

1939 **623 (.42) & 625 .42 (.42)**
Modern Transport, No. 1074, October 14, p. 5.
Protection of London Tube Railways. (1 900 words & fig.)

Proceedings, American Society of Civil Engineers. (New York.)

1939 **526**

Proceedings, American Society of Civil Engineers, No. 7, September, p. 1159.

BERRY (C. M.). — **Combining geodetic survey methods with cadastral surveys.** (13 500 words, tables & fig.)

1939 **62 (01 & 721 .1**

Proceedings, American Society of Civil Engineers, No. 7, September, p. 1239.

NIEDERHOFF (A. E.). — **Field tests of a shale foundation.** (8 500 words & fig.)

Railway Age. (New York.)

1939 **725 .33 (.73)**

Railway Age, No. 11, September 9, p. 367.

Southern Pacific builds **modern coach yard** at Los Angeles. (4 200 words & fig.)

1939 **625 .233 (.73) & 625 .235 (.73)**

Railway Age, No. 11, September 9, p. 374.

Delaware, Lackawanna & Western **rebuilt cars feature lighting and decoration.** (1 800 words & fig.)

1939 **656 .222.6 (.73)**

Railway Age, No. 11, September 9, p. 378.

Possibilities for **main-tracking.** (1 400 words.)

1939 **623 & 656**

Railway Age, No. 12, September 16, p. 395.

The war and the transportation problem. (2 500 words.)

1939 **621 .431.72 (.73)**

Railway Age, No. 12, September 16, p. 399.

Six **two-car diesel-electric trains** for the Southern. (2 700 words & fig.)

1939 **385 .21 (.73)**

Railway Age, No. 12, September 16, p. 403.

TROXEL (C. E.). — An economist dissects **the Upper Mississipi waterway.** — Hauling rocks and sand (and the oil companies' gasoline) is costing Uncle Sam a pretty penny — 4 1/2 of them per ton-mile, in fact. (4 300 words.)

1939 **725 .33 (.73)**

Railway Age, No. 12, September 16, p. 406.

Western Pacific modernizes its system **locomotive shop.** (5 000 words & fig.)

1939 **385 .575 (.73)**

Railway Age, No. 12, September 16, p. 412.

How to select a trainmaster. (2 600 words.)

1939 **621 .132.7 (.73) & 621 .431.72 (.73)**

Railway Age, No. 13, September 23, p. 436.

General American **replaces steam with diesel switchers.** (1 000 words & fig.)

1939 **625 .142 (.73) & 625 .17 (**

Railway Age, No. 13, September 23, p. 438.

SMITH (Ch. E.). — Causes of low **tie renew** (1 800 words & fig.)

1939 **621 .335 (**

Railway Age, No. 13, September 23, p. 440.

Evolution from steam to electric traction. (words & fig.)

1939 **656 .281 (**

Railway Age, No. 13, September 23, p. 444.

What wrecked the streamliner « City of San F cisco » ? (2 200 words & fig.)

1939 **656 .135 (**

Railway Age, No. 13, September 23, p. 447.

Illinois Central goes to **trucks.** Complicated br line problem solved by **rail-highway co-ordina** (800 words & fig.)

Railway Gazette. (London.)

1939 **656 .25**

Railway Gazette, No. 13, September 29, p. 430 No. 14, October 6, p. 456.

Signalling on a metre-gauge railway system. (words, tables & fig.)

1939 **625 .176**

Railway Gazette, No. 13, September 29, p. 434.

Notable **gauge conversion** in Germany. (1 000 & fig.)

1939 **625 .176**

Railway Gazette, No. 13, September 29, p. 436.

Through running between standard and 5-ft. g (1 100 words & fig.)

1939 **623**

Railway Gazette, No. 13, September 29, p. 442, N October 6, p. 467 and No. 15, October 13, p. **Transport services and the war.** (1 400 words.)

1939 **625 .3 (**

Railway Gazette, No. 14, October 6, p. 459.

The Flam railway in Norway. (500 words &

1939 **621 .133.8**

Railway Gazette, No. 14, October 6, p. 460.

Drifting valves for locomotives. (900 words &

1939 **621 .132.6**

Railway Gazette, No. 14, October 6, p. 461.

New tank locomotives for Malaya. (600 words &

1939 **623 (.42) & 625 .42**

Railway Gazette, No. 15, October 13, p. 484.

London Tube protective works. (2 200 words &

1939 **66 & 7**

Railway Gazette, No. 15, October 13, p. 487.

Chemical consolidation of soil. (500 words.)

1939 **625 .243**

Railway Gazette, No. 15, October 13, p. 488.

Mass production of box cars. (200 words & fig

39 656 (.66)
way Gazette, No. 15, October 13, p. 493.
ansport in Nigeria. (1 100 words.)

39 621 .431.72 (.82)
el Railway Traction, p. 150, suppl. to the Railway Gazette, September 29.
ie new Argentine extension. (1 000 words & fig.)

039 621 .431.72 (.946)
el Railway Traction, p. 151, suppl. to the Railway Gazette, September 29.
ore railcars for Tasmania. (500 words & fig.)

039 621 .431.72 (.44)
el Railway Traction, p. 152, suppl. to the Railway Gazette, September 29.
ocal railcars in France. (900 words & fig.)

939 621 .431.72 (.493) & 625 .26 (.493)
el Railway Traction, p. 153, suppl. to the Railway Gazette, September 29.
iesel traction on the Belgian National Railways. 00 words, tables & fig.)

939 621 .431.72 (.44) & 621 .433 (.44)
el Railway Traction, p. 158, suppl. to the Railway Gazette, September 29.
roducer-gas railcars in France. (500 words & fig.)

939 621 .431.72 (.725)
el Railway Traction, p. 159, suppl. to the Railway Gazette, September 29.
ight railcar in Mexico. (600 words & fig.)

939 621 .33 (.42)
etric Railway Traction, p. 110, suppl. to the Railway Gazette, October 13.
he Tyneside electrified lines of the L. N. E. R. 400 words & fig.)

Railway Mechanical Engineer. (New York.)

939 621 .131.2 (.44) & 621 .131.3 (.44)
lway Mechanical Engineer, September, p. 345.
RY (L. H.). — French tests show high locomotive ciencies. (4 000 words & fig.)

939 621 .134.3
lway Mechanical Engineer, September, p. 349.
team locomotive poppet valve gear. (2 200 words ig.)

939 625 .245 (.73)
lway Mechanical Engineer, September, p. 353.
ehigh and New England cement hopper cars. (1 100 ds & fig.)

939 625 .235 (.73)
lway Mechanical Engineer, September, p. 355.
ouble-glazed sash for air-conditioned cars. (1 000 ds & fig.)

939 625 .26 (.73)
lway Mechanical Engineer, September, p. 364.
hicago and Eastern Illinois builds new Danville ch shop. (2 600 words & fig.)

1939 621 .132.5 (.73)
Railway Mechanical Engineer, September, p. 371.
Santa Fe rebuilds ten locomotives. (2 400 words & fig.)

1939 621 .135.2 (.73) & 621 .138.5 (.73)
Railway Mechanical Engineer, September, p. 375.
VENTER (H. C.). — Babbitting locomotive crown brasses. (1 400 words & fig.)

Railway Signaling. (Chicago.)

1939 656 .256.3 (.73) & 656 .257 (.73)
Railway Signaling, September, p. 487.
Automatic signaling plant on the Frisco. (2 000 words & fig.)

1939 656 .254 (.73)
Railway Signaling, September, p. 490.
Trains directed by signal indication at San Jose, Cal. (2 200 words & fig.)

1939 656 .254 (.73)
Railway Signaling, September, p. 495.
Spring switch replaces an interlocking on the Delaware & Hudson. (1 200 words & fig.)

1939 651 (.73) & 654 (.73)
Railway Signaling, September, p. 497.
Milwaukee utilizes teletypes. (800 words & fig.)

1939 625 .162 (.73) & 656 .259 (.73)
Railway Signaling, September, p. 499.
Snubber gates sponsored by the State Highway Dept. of Delaware and State Roads Commission of Maryland and installed with Federal Funds at highway crossings on the Pennsylvania. (1 100 words & fig.)

1939 621 .34 (.73) & 625 .258 (.73)
Railway Signaling, September, p. 501.
Power supply for retarders. (1 500 words & fig.)

1939 656 .25 (0 (.73)
Railway Signaling, September, p. 504.
Action at approach signal. (600 words.)

1939 313 : 656 .25 (.73)
Railway Signaling, September, p. 506.
Annual statistics on signaling issued by the Interstate Commerce Commission. (800 words.)

The Locomotive. (London.)

1939 621 .132.8 (.67)
The Locomotive, No. 566, October 14, p. 272.
Metre gauge Beyer-Garratt locomotives. (800 words & fig.)

1939 621 .431.72 (.729)
The Locomotive, No. 566, October 14, p. 273.
Railcars for Jamaica. (1 100 words & fig.)

1939 385 (091 & 621 .13 (0
The Locomotive, No. 566, October 14, p. 280.
Some aspects of railway progress as they affect the locomotive department. (2 500 words & fig.) (To be continued).

1939 **385.** (093 (.492)
The Locomotive, No. 566, October 14, p. 290.
DERENS (E. L.). — **Centenary of the Dutch Railways.** (1 100 words & fig.)

1939 **621** .131.2
The Locomotive, No. 566, October 14, p. 294.
Some notes on **locomotive estimating.** (1 000 words, tables et fig.)

The Oil Engine. (London.)

1939 **621** .431.72 (.729)
The Oil Engine, No. 78, October, p. 174.
British light **railcars** for Jamaica. (1 400 words & fig.)

1939 **621** .431.72 (.82)
The Oil Engine, No. 78, October, p. 177.
Diesel rolling stock experience in Argentina. (400 words.)

1939 **621** .431.72 (.73)
The Oil Engine, No. 78, October, p. 182.
MANN (Ch. F.). — **Double-ended express locomotives** in U. S. A. (500 words & fig.)

1939 **621** .431.72
The Oil Engine, No. 78, October, p. 196.
The performance of **diesel railcars.** (1 300 words.)

Transit Journal. (New York.)

1939 **388.** (06 (.73)
Transit Journal, No. 10, September, p. 360.
The challenge of today's transit problems. — American Transit Association Convention at Los Angeles and San Francisco discusses the role of transportation in the city of tomorrow. (10 800 words & fig.)

1939 **621** .8 & **629** .113.5
Transit Journal, No. 10, September, p. 378.
PARDOE (E. S.). — **Hydraulic drives assume importance.** — Development of bus diesel engine has brought a need for smoother acceleration than is practicable with conventional transmissions. (2 500 words.)

In Spanish.

Revista del Colegio de Ingenieros de Venezuela. (Caracas-Venezuela.)

1939 **385.** (09 (.87)
Revista del Colegio de Ingenieros de Venezuela, abril/mayo/junio, p. 417.
JIMENEZ (G.). — Nuestros **ferrocarriles** (Venezuela). (6 600 mots & fig.)

In Italian.

La tecnica professionale. (Firenze.)

1939 **621** .133.7
La tecnica professionale, ottobre, p. 217.
MICHELUCCI (A.). — Regolazione dell' **apparecchio fisso depuratore chimico automatico,** a calce e soda, dell' acqua delle caldaie. (2 300 parole.)

Rivista tecnica delle ferrovie italiane. (Roma

1939 **624** .63 (.
Rivista tecnica delle ferrovie ital., 15 settembre, p.
BONA (P.). — **Allargamento del ponte** in murat sul fiume Toce al km. 52 + 555 in dipendenza del doppio della linea Arona-Domodossola. (1 400 pa & fig.)

1939 **621** .43
Rivista tecnica delle ferrovie ital., 15 settembre, p.
DIEGOLI (M.). — Determinazione dei **coeffici caratteristici di esercizio delle automotrici** a com tione interna. (3 800 parole & fig.)

1939 **621** .138.1 (.
Rivista tecnica delle ferrovie ital., 15 settembre, p.
CUTTICA (A.) & TAGLIONI (R.). — **L'offi tachimetri** delle Ferrovie dello Stato nell' organizzaz attuale. (9 200 parole & fig.)

In Dutch.

De Ingenieur. (Den Haag.)

1939 **625** .
De Ingenieur, nr 39, 29 September, p. V. 67.
BOLLEMAN KIJLSTRA (E.). — **Luchtdrukrem** voor spoorwegmaterieel. (8 000 woorden & fig.)

1939 **62.** (01 &
De Ingenieur, nr 10, 6 October, p. Bt. 79.
MAGNEL (G.). — **Dwarskrachten en gewapend be** (5 600 woorden & fig.)

1939 **625** .13 (.4
De Ingenieur, nr 41, 13 October, p. B. 165.
VAN BRUGGEN (J. P.). — De **Maastunnel** te Rot dam. Algemeene beschrijving van het werk. (11 woorden & fig.)

Spoor- en Tramwegen. (Utrecht.)

1939 **656** .234 (.4
Spoor- en Tramwegen, nr 20, 30 September, p. 524.
GROOT (A. M.). — De nieuwe **algemeene abon mentskaarten** der Nederlandsche Spoorwegen. (3 woorden & fig.)

1939 **385.** (06.4 (.4
Spoor- en Tramwegen, nr 20, 30 September, p. 530.
Spoorwegtentoonstelling te Amsterdam 8 Septembe 8 October 1939. (3 700 woorden & fig.)

1939 **656** .21 (.4
Spoor- en Tramwegen, nr 21, 14 October, p. 559.
PLOMP (A.). — De **spoorwegwerken** te Amsterd (1 800 woorden & fig.)

1939 **385** .586 (.4
Spoor- en Tramwegen, nr 21, 14 October, p. 569.
KUPPENS (A. G. J.). — **Opleiding** Spoorweg-Per neel. (1 200 woorden & fig.)

M. Weissenbruch Co., Ltd., Printer of the King, 49, rue du Poinçon, Bruxelles.

ANALYTICAL TABLE OF ARTICLES

ARRANGED ACCORDING TO THE DECIMAL CLASSIFICATION

(1939)

	Month.	Page.
3. Sociology in General.		
38. Commerce. Communications.		
385. Railways from a general, economic and financial point of view.		
385. (02. Railway handbooks, treatises, etc.		
Chemins de fer — Agenda Dunod, 1939 (Railways — Dunod Pocket Book), 58th Edition, by P. PLACÉ. (*New book.*)	May.	513
The Universal Directory of Railway Officials and Railway Year Book, 1939-1940. (*New book.*)	August.	860
385. (06. Societies, associations, scientific congresses.		
385. (06.111. International Railway Congress Association. Official documents.		
Official information issued by the Permanent Commission of the International Railway Congress Association:		
Summaries adopted by the Enlarged Meeting of the Permanent Commission (Brussels, 6-9 July 1939) in connection with the two questions of present interest brought up for discussion: — Speeding up of passenger services — Simplifying the working	August.	846
Meetings held by the Permanent Commission in Brussels (6-8 July, 1939)	September.	913
Appendix 1: List of Members and their Assistants who attended the meetings	»	917
Appendix 2: List of questions selected for the Agenda of the 14th Session	»	919
List of Members of the Permanent Commission (July 6th, 1939)	October.	1027
385. (09. History, description of railways, etc.		
385. (092. Biographies. Obituary notices.		
Clement COLSON	July.	755
385. (093. History of railways.		
The Fiftieth Anniversary of the Bulgarian State Railways (1888-1938). (*New book.*)	August.	862
385.1. Railways from a financial point of view. Their effect on a country's finances.		
385.11. Cost of construction. Revenue derived.		
385.114. Cost of transport units.		
Methods used to speed up passenger trains and the resulting expenditure. In particular, operating by means of railcars, and the financial results obtained by this method:		
Report (Great Britain, Dominions and Colonies, North and South America, China and Japan), by T. W. ROYLE and F. E. HARRISON	May.	413

	Month.	Page.
Report (Germany, Bulgaria, Denmark, Hungary, Norway, Sweden and Switzerland), by Herrn ROHDE, STROEBE and FESSER	June.	515
Report (Belgium and Colony, France and Colonies, Greece, Italy, Luxemburg, Netherlands and Colonies, Portugal and Colonies, Rumania, Jugoslavia), by L. DUMAS	June.	569
Special report, by L. DUMAS	July.	659
Discussion (Enlarged Meeting of the Permanent Commission, 6-8 July, 1939)	September.	865
Final summaries adopted (Plenary Meeting, 8 July, 1939)	September.	907
385 .14. Relation between the cost of carriage and the home and foreign economic policy. State control of rates.		
British Railways' « Square Deal » Claims. The problem and its solution	July.	735
388. Rapid transit in cities.		
Urban and Suburban Railways, by Paul H. BENDTSEN. (*New book.*)	December.	1089
6. Useful Arts.		
62. Engineering.		
62. (01. Strength of materials. Physical tests.		
Fighting rail corrosion in the 6.21-mile Moffat tunnel, by W. C. JONES	March.	269
Locomotive axle testing. — Results of fatigue tests on 11 1/2-in. unrolled and rolled axles	March.	285
Failures of locomotive parts and how to prevent them, by Fred H. WILLIAMS. (*Book review.*)	March.	312
Building above steam operation presents problems	April.	394
Silencing London's Tubes, by John S. TREVOR	May.	475
Pitting and corrosion in locomotive boilers	May.	503
Acoustic methods of sounding concrete and metal structures	October.	997
Brittleness tests. Their importance as regards the use of carbon steels, by J. MERKLEN and E. VALLOT	November.	1050
Investigation into lattice girders of welded steel and reinforced concrete undergoing static stresses and fatigue tests, by M. ROS	December.	1080
621. Mechanical and electrical engineering.		
621 .1. Steam engineering.		
621 .13. Locomotive engines.		
The metallurgy of a high-speed locomotive. A survey of the materials used in the construction of the streamlined express engines of the L. M. S. R. with details of analyses and tests	February.	135
621 .13. (0. General matters.		
Failures of locomotive parts and how to prevent them, by Fred. H. WILLIAMS. (*Book review.*)	March.	312
621 .13. (02. Handbooks, treatises, etc.		
Elsners Taschen-Jahrbuch für den Werkstätten- und Betriebsmaschinendienst bei der Deutschen Reichsbahn (Elsner's Yearly Handbook for the Running Department and Rolling Stock Repair Shops of the German Reichsbahn), 1939 (4th year). (*New book.*)	August.	861

	Month.	Page.
621 .131. Theory of the locomotive.		
The gain in power of streamlined locomotives, by Prof. Dr.-Ing. H. NORDMANN	March.	216
621 .131.2. Investigations into the conditions to be fulfilled when building a locomotive.		
P. L. M. Pacific locomotives, classes 231-G, 231-H and 231-K. Trials carried out and results obtained, by A. PARMANTIER	April.	351
621 .132. Various types of locomotives.		
621 .132.3. Passenger train locomotives with 4 or more coupled wheels.		
New York Central 4-6-4 locomotives show high power concentration . . .	January.	66
Four-cylinder compound 4-6-0 engines of the former French State Railways, rebuilt with external and internal streamlining and welded cylinders . . .	March.	300
P. L. M. Pacific locomotives, classes 231-G, 231-H and 231-K. Trials carried out and results obtained, by A. PARMANTIER	April.	351
4-6-4 type streamline passenger locomotives with welded fireboxes, Chicago, Milwaukee, St. Paul and Pacific Railroad	August.	836
New 4-8-2 type locomotives of classes 15 E, 15 F and 23, South African Railways	August.	855
New 4-8-4 passenger and 2-10-4 freight locomotives for the Atchison, Topeka and Santa Fe Railroad	September.	947
621 .132.5. Goods locomotives with more than 6 coupled wheels.		
German State Railways' 2-8-2 superheated steam locomotives, Class 41, for express goods traffic	August.	852
New 4-8-2 type locomotives of classes 15 E, 15 F and 23, South African Railways	August.	855
New 4-8-4 passenger and 2-10-4 freight locomotives for the Atchison, Topeka and Santa Fe Railroad	September.	947
621 .132.8. Special types. Steam railcars, etc.		
New American 5 000-H.P. turbo-electric condensing locomotive for the Union Pacific Railroad, by W. D. BEARCE	October.	989
621 .133. Production of steam in locomotives.		
621 .133.3. Boiler. Tubes.		
Handbuch für Kesselprüfer (Handbook for the inspection of boilers), by Specialists of the German State Railways. (*New book.*)	June.	657
Does copper still retain its importance in locomotive construction? by Dr. A. KARSTEN	December.	1059
621 .133.7. Boiler feeding. Water treatment. Antifouling compounds.		
Pitting and corrosion in locomotive boilers	May.	503
621 .134. The steam engine.		
621 .134.5. Lubrication of motion.		
Methods of lubrication used on the railways of the United States, by J. RIBOUD .	September.	926
621 .135. Vehicle of the locomotive.		
621 .135.2. Wheels. Axles. Axle boxes. Lubrication of journals, etc...		
Development of roller bearing axle boxes for railway vehicles, by F. PETERSEN	January.	56
Testing machines for the measurement of the coefficients of friction of lubricants and anti-friction alloys, by I. HAGUENAUER	February.	162

	Months.	Page.
Locomotive axle testing. — Results of fatigue tests on 11 1/2-in. unrolled and rolled axles	March.	285
Methods of lubrication used on the railways of the United States, by J. RIBOUD.	September.	925
621 .135.4. Lateral play on curves. Bogies. Bissel bogies.		
The motion over curves of multi-wheeled locomotives, by Herr AVENMARG	October.	1010
621 .137. Locomotive working.		
621 .137 (02. Manuals, handbooks, etc.		
The Locomotive Running Department, by J. G. B. SAMS. (*New book.*)	November.	1057
Leitfaden für den Dampflokomotivdienst (Manual for the steam locomotive staff), 1939, 3rd edition, by L. NIEDERSTRASSER. (*New book.*)	December.	1088
621 .138. Laying up and maintaining the locomotives.		
The Locomotive Running Department, by J. G. B. SAMS. (*New book.*)	November.	1057
621 .138.5. Repairing locomotives. Repair shops.		
Description of the method of locomotive repair as carried out in the Khargpur Workshops of the Bengal Nagpur Railway, by L. G. BAILEY. (*Book review.*)	April.	412
621 .138.5 (02. Handbooks, treatises.		
Elsners Taschen-Jahrbuch für den Werkstätten- und Betriebsmaschinendienst bei der Deutschen Reichsbahn (Elsner's Yearly Handbook for the Running Department and Rolling Stock Repair Shops of the German Reichsbahn), 1939 (4th year). (*New book*)	August.	861
621 .3. Electrical engineering.		
621 .33. Electric railways and tramways. Railway electrification.		
Die ortsfesten Anlagen elektrischer Bahnen (The fixed equipment of electric railways), by Karl SACHS. (*Book review.*)	April.	411
621 .331. Power stations and substations for electric traction.		
Centrally-controlled electric traction substations on the Paris-Le Mans line, by Jacques DUMAS	December.	1065
621 .335. Electric locomotives, electric motor coaches.		
High-speed diesel-electric locomotives of the French National Railways Company, by Mr. TOURNEUR	March.	230
Light-weight electric trains, classes BCFZe 4/6 and CFZe 2/6, of the Bernese Alps Railway Company (Bern-Loetschberg-Simplon), by L. LEYVRAZ	August.	757
New American 5 000-H.P. turbo-electric condensing locomotive for the Union Pacific Railroad, by W. D. BEARCE	October.	989
621 .338. Electric rolling stock.		
New coaches for electric traction on the Netherlands Railways, by E. BOLLEMAN-KYLSTRA	July.	739
Light-weight electric trains, classes BCFZe 4/6 and CFZe 2/6, of the Bernese Alps Railway Company (Bern-Loetschberg-Simplon), by L. LEYVRAZ	August.	757
621 .34. Power distribution lines.		
Durchhänge und Zugspannungen von Freileitungen — D-Z Kurve (Sags and mechanical tensions in electric overhead lines — D-Z curve), by F. BESSER. (*New book.*)	December.	1090

	Month.	Page.
621 .39. Miscellaneous uses of electricity (Braking, welding, lighting, heating, etc.).		
621 .392. Electric welding.		
The Sperry rail welding equipment	February.	120
Four-cylinder compound 4-6-0 engines of the former French State Railways, now rebuilt with external and internal streamlining and welded cylinders	March.	300
Milwaukee 50-ton all-welded flat cars	September.	959
Welded metal bridges. Comparison between the German and the French standard specifications (Case of the plate girder bridges), by H. REGIS	October.	963
621 .4. Air, gas and oil engines.		
The new producer-gas railcars of the French National Railways Company, by Henry MARTIN	April.	385
621 .43. Ignited-gas engines. Internal combustion engines. (see also 621 .431 to 621 .436 hereafter).		
The N. R. self-adjusted brake (for railcars), by V. NICOLET and R. ROUSSELET.	January.	96
High-speed diesel-electric locomotives of the French National Railways Company, by Mr. TOURNEUR	March.	230
Increasing the adhesive weight of railcars, by J. L. KOFFMANN	April.	382
Coupled and twin railcars, by Mr. TOURNEUR	May.	467
A new high-speed diesel-electric railcar set for the Deutsche Reichsbahn	May.	473
English 1 000-B.H.P. vee-type high-speed diesel engine (Paxman Ricardo)	May.	492
Davenport-Besler builds 105-ton diesel-electric switcher	May.	498
A single-bank horizontal engine (Humboldt-Deutz) for light railcar work	May.	510
The use of hydronalium for railcar construction, by Otto TASCHINGER	August.	797
621 .431. General.		
621 .431.7. Various applications.		
621 .431.72. Railway traction.		
Diesel Locomotives and Railcars (2nd Edition), by BRIAN REED. (*New book.*)	June.	657
Experimental railcar for the Central Railway of Peru, by J. L. KOFFMANN	August.	781
New five-car diesel trains for Holland	September.	957
Fast railcars ordered by the Norwegian State Railways for the Oslo-Bergen line	December	1085
Elsners Taschen-Jahrbuch für den Reichsbahn-Kraftverkehr (Elsner's annual handbook for the road and rail motor traffic of the German State Railways), 1939, 4th year. (*New book.*)	December.	1088
621 .431.73. Road traction.		
Elsners Taschen-Jahrbuch für den Reichsbahn-Kraftverkehr (Elsner's annual handbook for the road and rail motor traffic of the German State Railways), 1939, 4th year. (*New book.*)	December.	1088
621 .434. Petrol engines.		
Experimental railcar for the Central Railway of Peru, by J. L. KOFFMANN	August.	781
621 .436. Oil (diesel) engines.		
The Oil Engine Manual, by D. S. D. WILLIAMS and J. MILLAR SMITH. (*New book.*)	December	1089

	Month.	Page.
624. Bridges and roofs.		
Welded metal bridges. Comparison between the German and the French standard specifications (Case of the plate girder bridges), by H. REGIS . . .	October.	963
624. 8. Movable bridges.		
The maintenance of movable bridges	May.	479
The bascule railway bridge over the South Beveland Canal on the Roosendaal-Flushing line, near Vlake, Holland, by Th. W. MUNDT	November.	1031
625. Railway and road engineering.		
625 .1. Railway engineering. Way and works.		
The construction of the Irmak-Fylyos and Favzipasa-Diyarbekir railway lines. (*New book.*)	January.	104
625 .1 (02. Handbooks, treatises.		
Elsners Taschen-Jahrbuch für den bautechnischen Eisenbahndienst (Elsner's Yearly Handbook for the Permanent Way Department), 1939 (17th year). (*New book.*)	August.	860
625 .11. Scheme for a railway. Surveying.		
625 .113. Longitudinal section. Gradients. Curves.		
Railway curves. — Running over two tangent curves having the same superelevation, but different radii. Tolerance for the alignment of curves, by J. CHAPPELLET	February.	105
Railway curves. — A new method of dealing with track adjustments, solely by the aid of the versines diagrams, by J. CHAPPELLET	April.	331
Railway curves. — Junctions. — Problems of layout. — Junctions with transitioned turnout-curves, by J. CHAPPELLET	October.	972
625 .14. Permanent way.		
625 .14 (01. General matters. Stresses in railway track. Calculations. Measurements, etc.		
Primary stresses in railway tracks, by W. E. GELSON	August.	826
625 .142. Supports.		
625 .142.2. Timber sleepers.		
Steel or wood sleepers ? by Oberbaurat LEONHARD	August.	816
625 .142.3. Steel sleepers.		
Steel or wood sleepers ? by Oberbaurat LEONHARD	August.	816
625 .143. Rails and their fastenings.		
Fighting rail corrosion in the 6.21-mile Moffat tunnel, by W. C. JONES . . .	March.	269
625 .143.2. Quality of rail steel. Specifications. Manufacturing process. Tests.		
Reproducing the wearing qualities of early steel rails under modern conditions .	February.	110
The production of martensitic rails	September.	921

	Month.	Page.
625 .143.4. Rail joints. Fishplates. Elimination of joints.		
The Sperry rail welding equipment	February.	120
New oxy-acetylene process for butt-welding rails	October.	1003
621 .143.5. Rail fastenings. Rail creep.		
Derailment on concrete roadbed caused by breaking bolts, Pere Marquette Railroad	February.	205
625 .144. Platelaying.		
625 .144.2. Gauge widening and superelevation. Track laying on curves.		
String lining of curves, by P. E. KNIGHT. (*Book review.*)	March.	311
625 .15. Road appliances. Points and crossings.		
625 .154. Turntables.		
Northern Pacific builds turntables 135 ft. long	May.	488
Turntable extension carrier to accommodate long-wheelbase wagons, by M. MARJOLLET	October.	1021
625 .156. Various accessories (buffer stops, distance indicators, etc.).		
Signal innovation in Germany. Wheel counting mechanism	March.	309
Hydraulic buffer stop at Aldgate East Station	October.	1025
625 .16. Equipment of minor importance. — Approach roads. Gates, etc.		
625 .162. Fencing and level crossing gates, etc.		
Frisco installs retarding barriers. Push-button cut-outs are provided for use during switching moves	February.	194
Automatic apparatus for protecting level crossings, giving a constant warning interval independent of the speed of the train	July.	748
625 .17. Permanent way inspection and maintenance.		
The maintenance of line and surface to meet present-day operating requirements	April.	403
The maintenance of movable bridges	May.	479
625 .174. Keeping the line clear during snowstorms.		
Electric switch heaters at Rock Island interlocking prove their value in severe snowstorm, by LEROY WYANT	February.	207
625 .2. Railway rolling stock.		
The weight factor in train resistance and its influence on the economic value of vehicles made of light-weight metals, by Fritz REIDEMEISTER	March.	259
625 .21. Principal parts of the vehicles.		
625 .212. Axles. Wheels. Tyres. Balancing of the wheels, etc.		
Fractures of railcar axles, by Mr. CHATEL	January.	100
625 .214. Axle-boxes and axle-guards. Lubrication.		
Development of roller bearing axle boxes for railway vehicles, by F. PETERSEN	January.	56
Testing machines for the measurement of the coefficients of friction of lubricants and anti-friction alloys, by I. HAGUENAUER	February.	162
Methods of lubrication used on the railways of the United States, by J. RIBOUD.	September.	926

	Month.	Page.
625 .215. Bogies and bissels. Radial and convergent axles. Guiding through curves.		
Tests about the behaviour of railway vehicles on the track, by Ad.-M. HUG	February.	177
The Brown-Boveri « Simplex » bogie for electric traction	May.	506
625 .23. Passenger coaches.		
The metallisation of wooden-bodied bogie passenger coaches, by M. BERTRAND.	February.	126
625 .232. Corridor carriages, sleeping cars, dining cars, etc.		
New buffet-restaurant car for York-Swindon service	October.	1018
625 .233. Lighting.		
Fluorescent lighting for cars on the New York Central Railroad	April.	408
625 .24. Goods wagons.		
625 .241. Flat wagons.		
Milwaukee 50-ton all-welded flat cars	September.	959
625 .25. Brakes.		
625 .251. General matters.		
The N. R. self-adjusted brake, by V. NICOLET and R. ROUSSELET	January.	96
The friction of brake shoes at high speed and high pressure	March.	278
625 .26. Carriage and wagon repair shops.		
625 .26 (02. Handbooks, manuals, etc.		
Elsners Taschen-Jahrbuch für den Werkstätten- und Betriebsmaschinendienst bei der Deutschen Reichsbahn (Elsner's Yearly Handbook for the Running Department and Rolling Stock Repair Shops of the German Reichsbahn), 1939 (4th year). (*New book.*)	August.	861
625. 4. Overhead and underground railways.		
Silencing London's Tubes, by John S. TREVOR	May.	475
656. Transport by road, rail, etc.		
Competition by roads, waterways and airways (Continuation). — Great Britain, 1938	March.	211
Code de la coordination des transports ferroviaires et routiers (Code of rail and road transport co-ordination), France. (*New book.*)	November.	1058
656. 2. Carriage by railway. Railway working.		
How should the problems of simplifying the working be considered in the future, in the interests both of the public and of the railways ? (Question II, Enlarged Meeting of the Permanent Commission, July, 1939) :		
Report (English speaking Countries and Belgium), by E. DESORGHER	April.	315
Report (Secondary Railways), by Dr. Gr. Uff. Pietro LO BALBO	May.	461
Report (Continental Main-Line Railways, except Belgium), by Mr. GOURSAT	June.	559
Special report, by E. DESORGHER	July.	669
Discussion (Enlarged Meeting of the Permanent Commission, 6-8 July, 1939)	September.	890
Final summaries adopted (Plenary Meeting, 8 July, 1939)	September.	908
656 .22. Trains.		
Methods used to speed up passenger trains and the resulting expenditure. In particular, operating by means of railcars, and the financial results obtained by this method :		
Report (Great Britain, Dominions and Colonies, North and South America, China and Japan), by T. W. ROYLE and F. E. HARRISON	May.	413

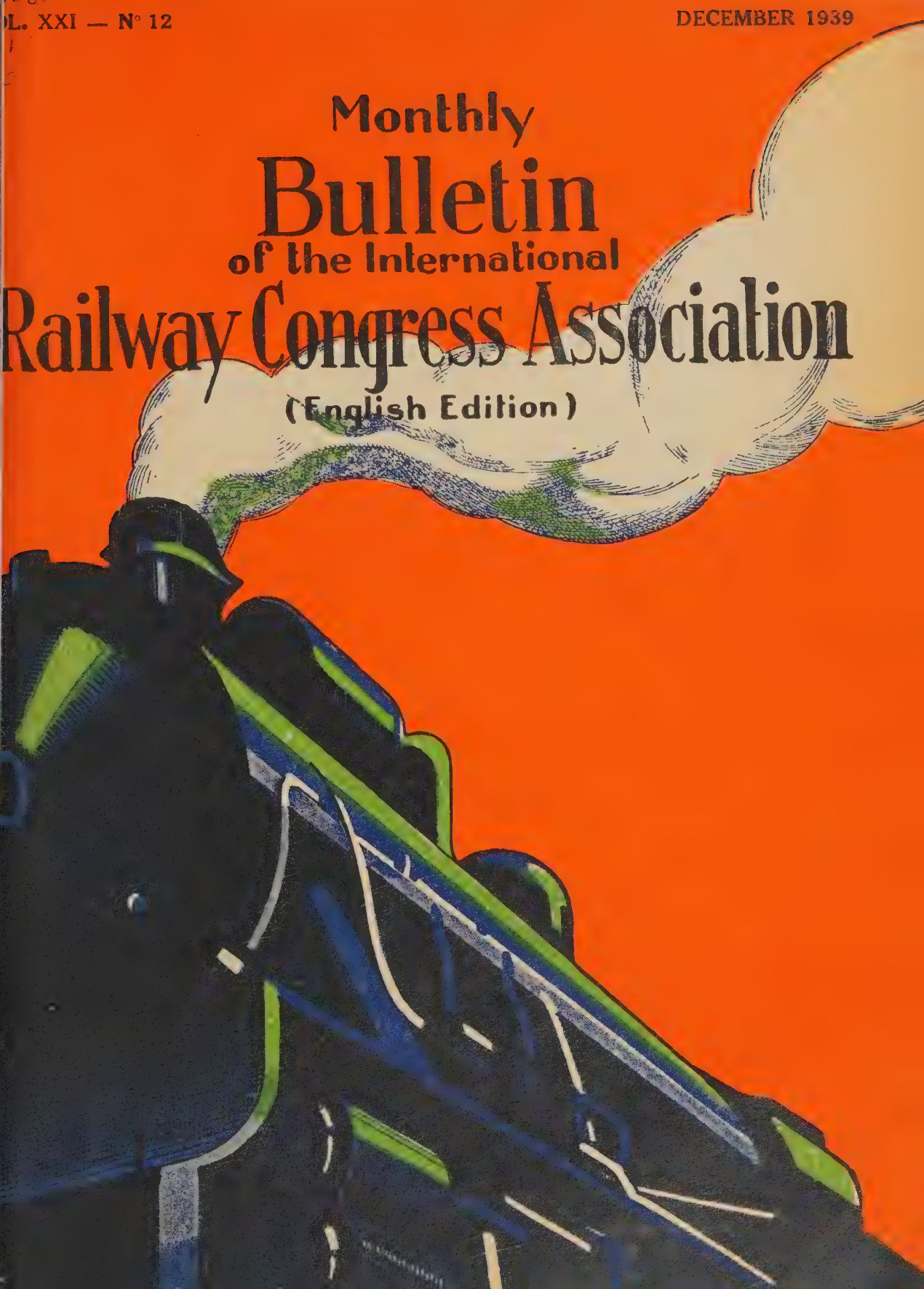
	Month.	Page.
Report (Germany, Bulgaria, Denmark, Hungary, Norway, Sweden and Switzerland), by Herrn ROHDE, STROEBE and FESSER	June.	515
Report (Belgium and Colony, France and Colonies, Greece, Italy, Luxemburg, Netherlands and Colonies, Portugal and Colonies, Rumania, Jugoslavia), by L. DUMAS	June.	569
Special report, by L. DUMAS	July.	659
Discussion (Enlarged Meeting of the Permanent Commission, 6-8 July, 1939)	September.	865
Final summaries adopted (Plenary Meeting, 8 July, 1939)	September.	967
656 .221. Power required to haul trains. Train resistance.		
The weight factor in train resistance and its influence on the economic value of vehicles made of light-weight metals, by Fritz REIDEMEISTER	March.	259
Air resistance of railroad equipment, by A. I. LIPETZ. (*Book review.*)	May.	512
656 .222. Train working.		
656 .222.1 Speed and load.		
Train speeds and services in 1938, by Lionel WIENER	January.	1
Noteworthy trial run of an Electrotrain on the Florence-Milan line	November.	1048
656 .223. Utilisation and distribution of rolling stock.		
656 .223.2. Utilisation and distribution of wagons.		
Wagon utilisation, by Howard E. PHEASANT. (*Book review.*)	March.	313
656 .23. Traffic and rates.		
656 .231. Rates in general.		
A simplified rate classification in Uruguay. A new scheme which provides an automatic goods classification designed to place rail and road transport on an equality	October.	1014
656 .234. Rates and conditions for carrying passengers and luggage, dogs and miscellaneous articles. Tickets. Free passes. Reduced fares.		
Tickets, by Lionel WIENER — Part E : Ticket representation of tariffs. Special tickets (to be continued)	July.	673
656 .235. Rates and conditions for carrying goods.		
Leitgedanken der Eisenbahngütertarifpolitik mit Ausblicken auf die Tarifpolitik der Reichsbahn im Sächsischen Wirtschaftsgebiete (Guiding principles of the goods rates policy with special reference to the rates policy of the Reichsbahn in the industrial districts of Saxony), by Dr. Walter SCHMIDT. (*New book.*)	May.	511
656 .25. Safety precautions. Signals.		
American Signaling principles and practices. Chapter XXIV. — Power distribution systems and ligthning protection. — Published by the AMERICAN ASSOCIATION OF RAILROADS, SIGNAL SECTION. (*Book review.*)	March.	313
656 .254. Apparatus for communicating information at long distances. Alarm bells and special warning devices. Telegraph. Telephone. Communication between stations and trains in motion. Various systems of working. Train dispatchers. Automatic train control.		
Results with Hudd system of automatic train control on the London Midland and Scottish Railway	March.	303
Automatic apparatus for protecting level crossings, giving a constant warning interval independent of the speed of the train	July.	743
Repeating signals in the locomotive cab by means of the « detected crocodile », or ramp	November.	1053

	Month.	Page.
Die Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn (Development and present position of automatic train control on the German State Railways), by Herr KRAUSKOPF. (*New book.*)	December	1087
656 .257. Combined working of signals and points. Signal boxes.		
The power boxes of the French Est Railways, by Mr. LECOMTE	January.	77
Route interlocking on the Baltimore and Ohio Chicago Terminal	February.	200
Double-wire signalling, Victorian Government Railways	April.	390
656 .258. Interlocking. Various locking devices.		
Route and approach locking, by Mr. LEMONNIER	March.	291
656 .259. Various safety devices.		
Frisco installs retarding barriers. Push-button cut-outs are provided for use during switching moves	February.	194
Electric switch heaters at Rock Island interlocking prove their value in severe snowstorm, by LEROY WYANT	February.	207
Signal innovation in Germany. Wheel counting mechanism	March.	309
656 .26. Accessory services.		
656 .261. Collection and delivery.		
Die Eisenbahn ins Haus. Die Beförderung von Eisenbahnwagen und Schwerlasten mit Strassenfahrzeuge (Door-to-door rail transport. Transport of railway wagons and special heavy loads by means of road vehicles), by Dr.-Ing. CULEMEYER. (*New book.*)	May.	511
656 .28. Accidents.		
656 .281. Derailments.		
Derailment on concrete roadbed caused by breaking bolts, Pere Marquette Railroad	February.	205
66. Chemical industry.		
665 .882. Gas welding.		
New oxy-acetylene process for butt-welding rails	October.	1003
669. Metallurgy. Assaying.		
The metallurgy of a high-speed locomotive. A survey of the materials used in the construction of the streamlined express engines of the L. M. S. R. with details of analyses and tests	February.	135
The use of hydronalium for railcar construction, by Otto TASCHINGER	August.	797
669. 1. Iron and steel.		
Brittleness tests. Their importance as regards the use of carbon steels, by J. MERKLEN and E. VALLOT	November.	1050
869. 3. Copper.		
Does copper still retain its importance in locomotive construction? by Dr. A. KARSTEN	December	1059
7. Fine arts.		
72. Architecture.		
721. 1. Foundations.		
Building above steam operation presents problems	April.	394

)L. XXI — N° 12 DECEMBER 1939

Monthly Bulletin of the International Railway Congress Association

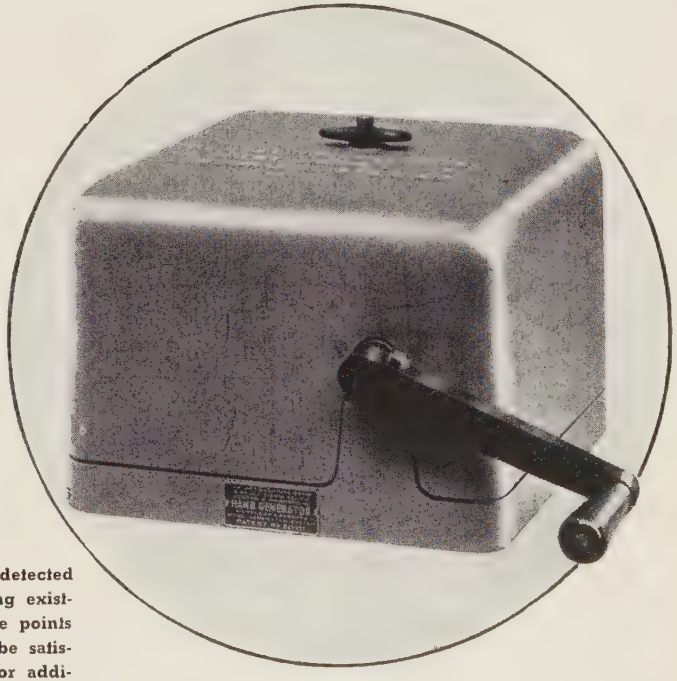
(English Edition)



Why not work

those outlying points and signals with

The *Westinghouse* HAND GENERATOR SYSTEM?



- This system provides an economical and convenient means of power working at high voltage, over any required distance, without the need for installing power mains or large batteries.
- Long passing loops, triangle junctions, branch line junctions, etc., are operated easily and safely.
- The system can be used with a slide lever frame, a power frame, or an existing mechanical frame.
- Improvements in the design of the point machine make operation easier and quicker.
- Points operated by this system can be detected electrically if required, but when converting existing layouts the mechanical detection of the points by the mechanically operated signals can be satisfactorily retained. This avoids the need for additional detection apparatus or the use of batteries as far as the point operation is concerned.

SOME HUNDREDS OF INSTALLATIONS ARE NOW IN SERVICE IN ALL PARTS OF THE WORLD.

Westinghouse Brake & Signal Co. Ltd.
Temporary Address :
Pew Hill House
Chippenham, Wilts.

●

Mc Kenzie & Holland (Australia) Pty. Ltd.
Melbourne.
Brisbane.

●

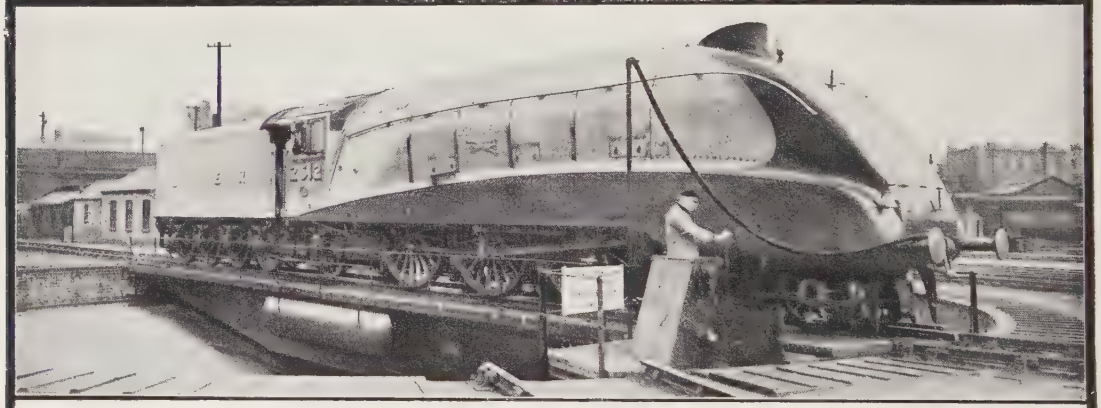
Saxby & Farmer (India) Ltd.
Calcutta.
Bombay.

A NEW METHOD

of turning Locomotives (Patented)

BY POWER FROM THE BRAKE SYSTEM

L. M. S. Turbine Locomotive on one of our Non-Balanced Turntables fitted with our Patent Vacuum Engine



L. N. E. R. Locomotive being turned on an existing Balanced Turntable fitted with our Patent Vacuum Engine Tractor

BALANCED AND ARTICULATED TURNTABLES
WATER COLUMNS AND WHEEL DROPS
RAILWAY BREAKDOWN CRANES
with and without patent relieving bogies
DOCK CRANES AND CAPSTANS
of every description
OVERHEAD CRANES

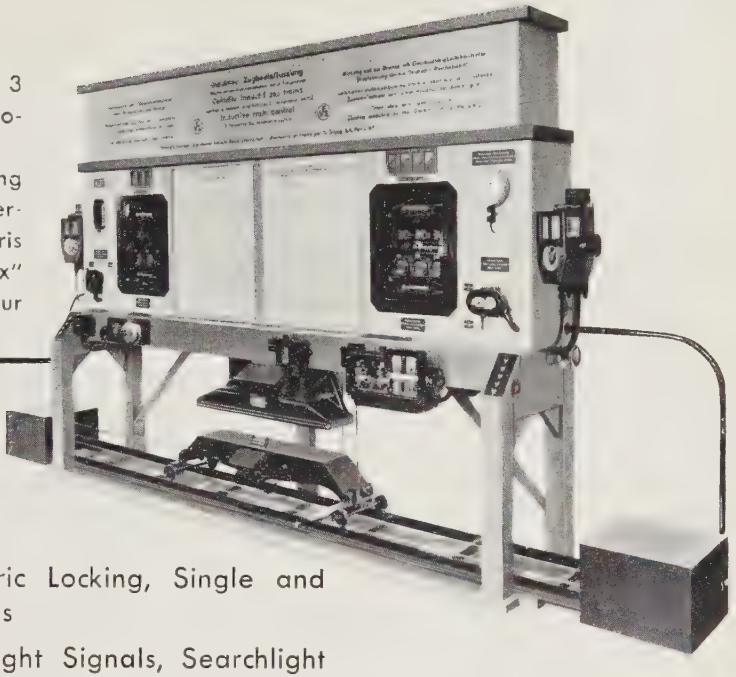
COWANS, SHELDON & Co LTD

London Office :
BUSH HOUSE ALDWYCH W. C. 2
Telephone : Temple Bar 7851

ST. NICHOLAS WORKS, CARLISLE
TELEPHONE : CARLISLE 13

MODERN SIGNALLING EQUIPMENTS

Inductive train control, 3 frequency A.-C. resonance-system.
Demonstration set having been shown in the International Exhibition Paris 1937. Three "Grand Prix" have been granted to our designs.



Mechanical and All Electric Locking, Single and Multiple Row Power Frames

Semaphore and Colour Light Signals, Searchlight Signals

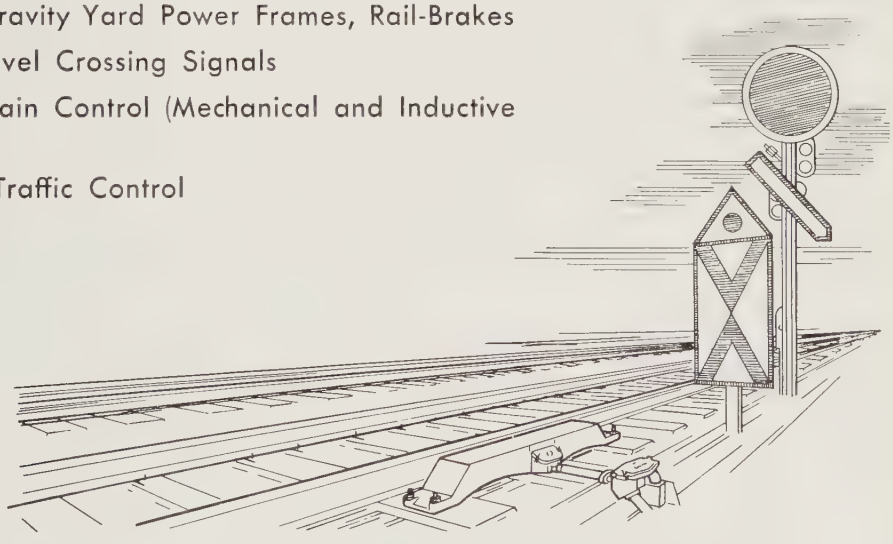
Manual-worked and Automatic Block Signalling

Automatic Gravity Yard Power Frames, Rail-Brakes

Automatic Level Crossing Signals

Automatic Train Control (Mechanical and Inductive Type)

Centralised Traffic Control

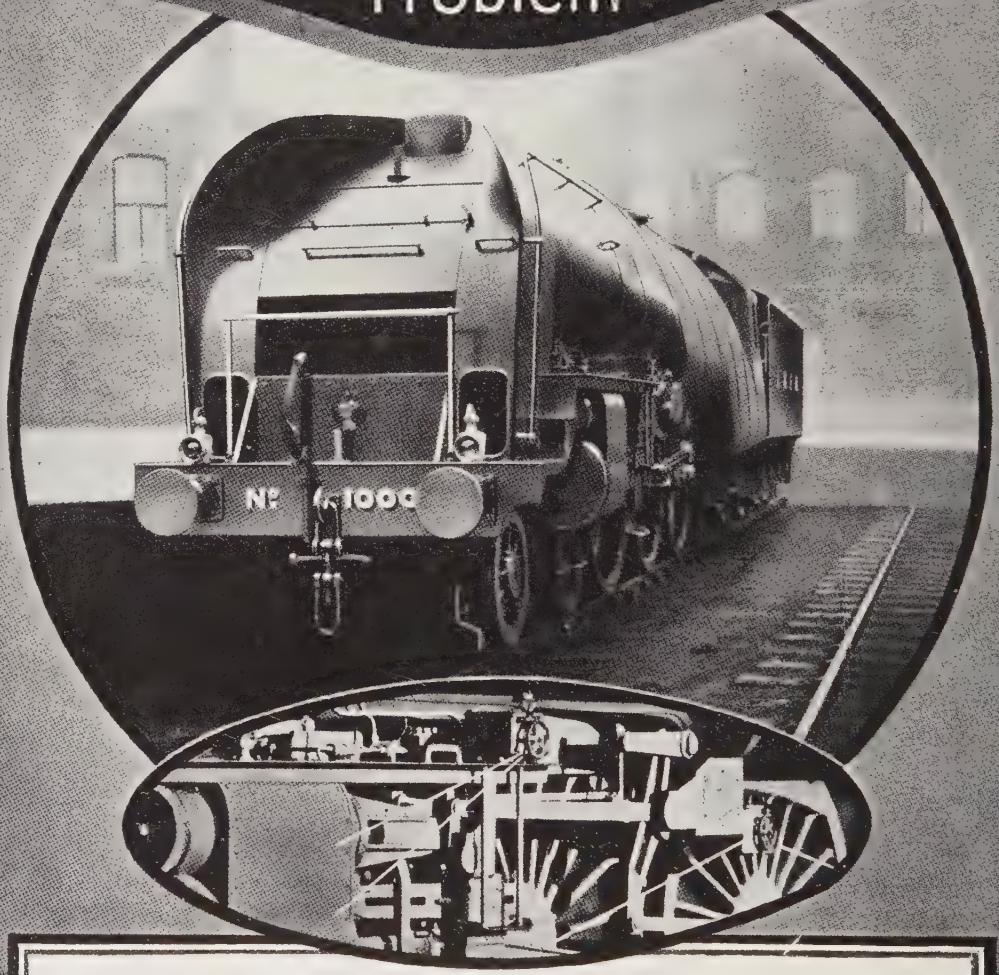


VFS

VEREINIGTE EISENBAHN-SIGNALWERKE
G. M. B. H.
BERLIN-SIEMENSSTADT

Works in Berlin-Siemensstadt, Braunschweig, Bruchsal, Georgsmarienhütte

High Pressure Steam
-and the Lubrication Problem



THE L.N.E.R. 4- CYLINDER COMPOUND EXPRESS LOCOMOTIVE depicted above, fitted with high pressure Yarrow-Gresley boiler is equipped with WAKEFIELD No 7 pattern Mechanical Lubricators for valves, cylinders and axleboxes. One of the principal and most difficult problems associated with the use of steam at very high pressures in locomotives is that of lubricating the cylinders and piston valves; whilst for heavily loaded bearings forced lubrication has become a necessity. WAKEFIELD'S Mechanical Lubricators adequately meet both requirements.

C. C. WAKEFIELD & CO., LTD.

WAKEFIELD HOUSE, 30-32, CHEAPSIDE, LONDON, E. C. 2

Europe's Fastest Trains

equipped with

MAYBACH

Railcar Power Sets

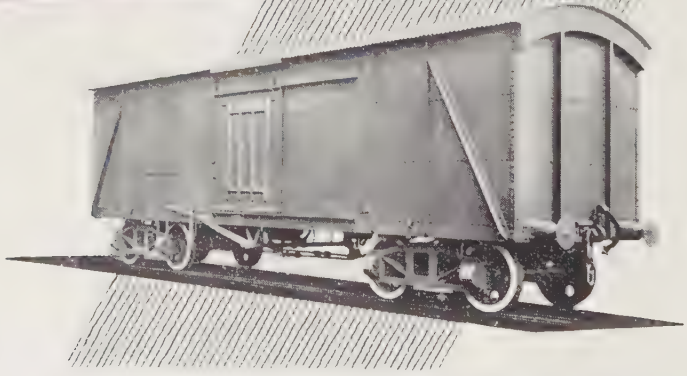
Maybach Power Sets for Diesel Railcars are backed by an actual service record of 150 million kilometres

MAYBACH-MOTORENBAU G.M.B.H.
FRIEDRICHSHAFEN - BODENSEE

Designers & Builders of
RAILWAY WAGONS
of all types

40 ton
Hopper Ballast Wagon
4ft. 8½in. gauge
Southern Railway

Steel Dropsided Bogie Wagon
3ft. 6in. gauge
South African Railways



40 ton Steel Covered Wagon.
5ft. 3in gauge mounted on
"Sheffield-Twinberrow" Bogies
San Paulo (Brazilian) Railway

METROPOLITAN-CAMMELL
CARRIAGE & WAGON Co LIMITED
Head Office: SALTLEY, BIRMINGHAM. London Office: VICKERS HOUSE, BROADWAY, WESTMINSTER, S.W.1.

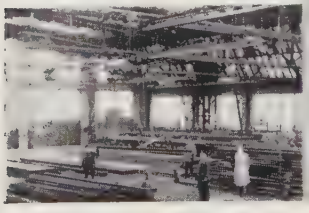
EQUIPMENTS FOR RAILWAY SERVICE

In Railway Shops, Locomotive, Carriage and Wagon Repair Works, the well-known DEMAG Cranes and other Special Equipment have always occupied a leading position. We supply : Overhead Travelling Cranes up to 300 tons carrying capacity; Special Overhead Travelling Cranes for locomotive, carriage and wagon repair work; Electrically-driven High-speed Hoisting Devices up to 10 tons carrying capacity, suspension cranes and suspension tracks with switches and turntables for railway yards and repair shops; railway breakdown cranes, erection cranes for railway bridge construction.

Compressors for air and gas. Pneum. tools of every description

Turntables, switches, capstans, sunk traversers.

Locomotive coaling plants with bunkers and weigher.



Electrical rapid hoists DEMAG blocks, DEMAG suspension cranes, Double acting hoists.

DEMAG

Railway breakdown cranes, also suitable for exchanging railway bridges and rails.

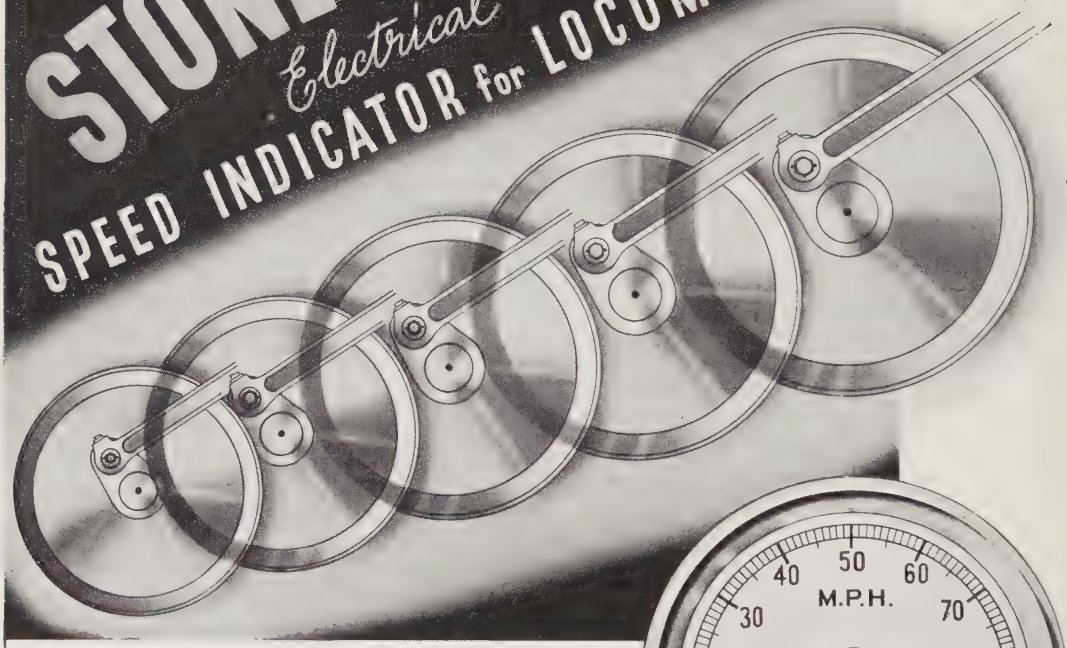
Agencies :

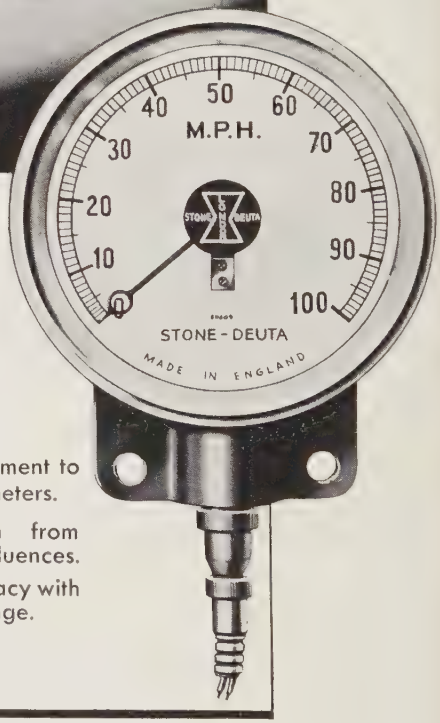
Great Britain : P. Heuser, 119, Victoria Street, **London S. W. 1.**
France : A. Legendre & C^ie^, 33, Rue d'Amsterdam, **Paris VIII^e^.**
Belgium : Edmond Ochs, Industriel, **Seraing.**
Italy : DEMAG Aktiengesellschaft Uff. Tecnico per l'Italia, Via Ugo Bassi 3, **Milano.**
Spain : Rudolfo Schmitz, Alam. Recalde 7, Apartado 494, **Bilbao.**
Switzerland : Ing. H. Versell, **Wallisellen-Zürich,** Eigenheimstr. 6.
German-Austria : Obering. J. Kroschel, **Wien IV,** Brucknerstr. 6.

The New

STONE-DEUTA *Electrical*

SPEED INDICATOR for LOCOMOTIVES





Positive drive to Transmitter through a 2½ to 1 ratio gearbox.

Electric cable transmission to instrument in cab.

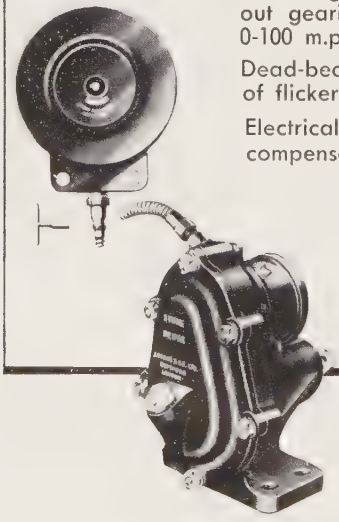
Dial range of instrument 280° without gearing with speed range of 0-100 m.p.h.

Dead-beat indication — Absence of flicker at low speeds.

Electrical adjustment device on instrument to compensate for varying wheel diameters.

Remarkable freedom from external magnetic influences.

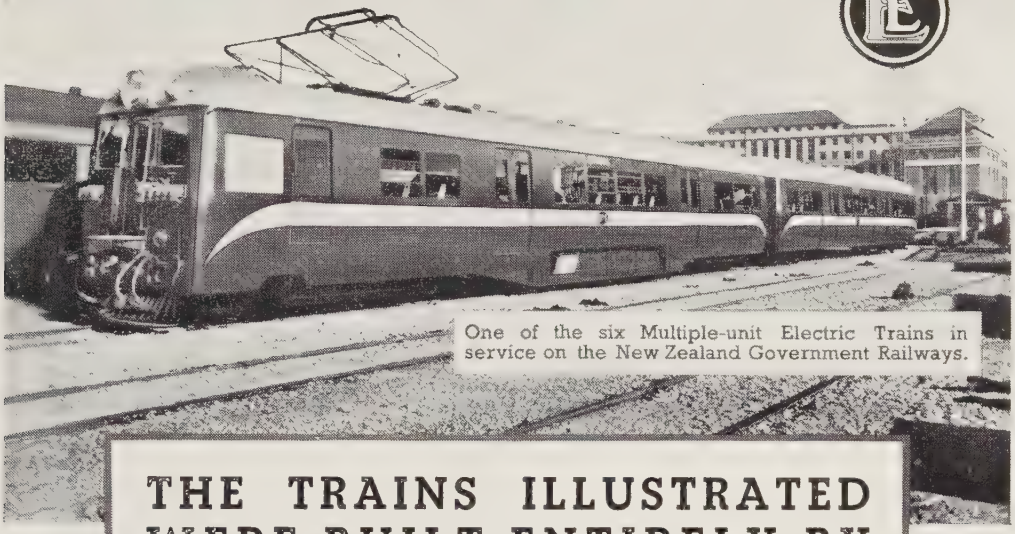
High degree of accuracy with wide temperature range.



J. STONE & COMPANY LTD.

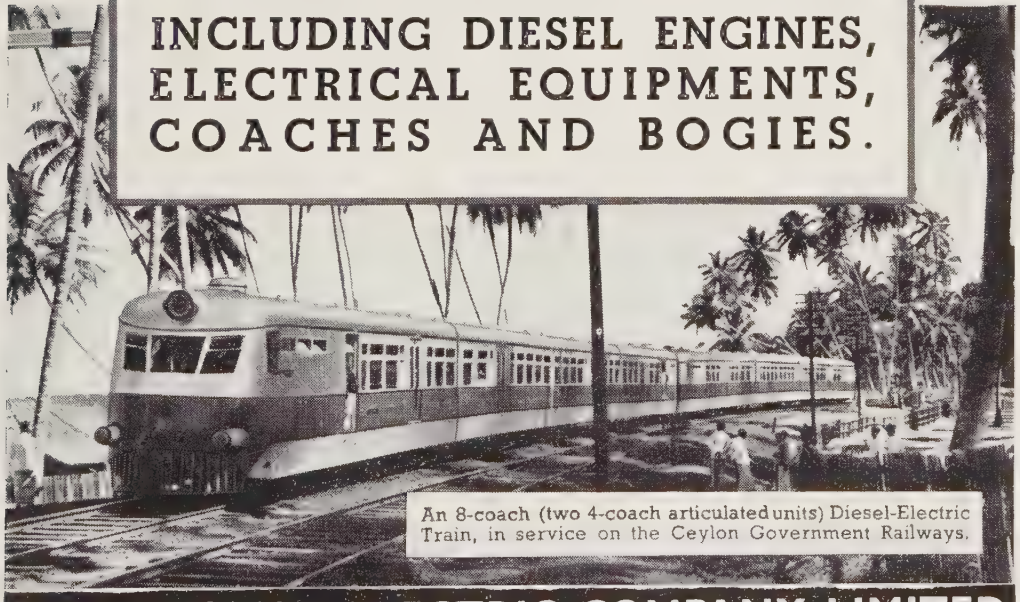
DEPTFORD · LONDON · ENGLAND

'ENGLISH ELECTRIC'



One of the six Multiple-unit Electric Trains in service on the New Zealand Government Railways.

THE TRAINS ILLUSTRATED WERE BUILT ENTIRELY BY THE ENGLISH ELECTRIC CO. INCLUDING DIESEL ENGINES, ELECTRICAL EQUIPMENTS, COACHES AND BOGIES.



An 8-coach (two 4-coach articulated units) Diesel-Electric Train, in service on the Ceylon Government Railways.

THE ENGLISH ELECTRIC COMPANY LIMITED

Registered Office: QUEEN'S HOUSE, KINGSWAY, LONDON, W.C.2

WORKS : STAFFORD · BRADFORD · RUGBY · PRESTON

BRANCH OFFICES AND ASSOCIATES ABROAD :

ARGENTINA, AUSTRALIA, BRAZIL, CANADA, CEYLON, CHINA, DENMARK, EGYPT, ICELAND, INDIA, JAPAN, MALAYA, MEXICO, NEW ZEALAND, RHODESIA, SOUTH AFRICA, WEST INDIES, YUGO-SLAVIA.

RAILWAY ELECTRIFICATION *in* SOUTH AFRICA

METROVICK LOCOMOTIVES

DELIVERED PRIOR TO 1936	95
DELIVERED 1936-37	25
ORDERED 1937	42

METROPOLITAN Vickers ELECTRICAL CO. LTD.
TRAFFORD PARK ··· MANCHESTER 17.

KX / T 701

SOLID

FORGED AND ROLLED STEEL

WHEELS

TYRES, AXLES & DISC CENTRES

FOR
LOCOMOTIVES
CARRIAGES & WAGONS

TAYLOR BROS
& COMPANY LIMITED
TRAFFORD PARK STEEL WORKS, MANCHESTER.

London Office:
VICKERS HOUSE, BROADWAY,
WESTMINSTER, ——— S.W. 1.

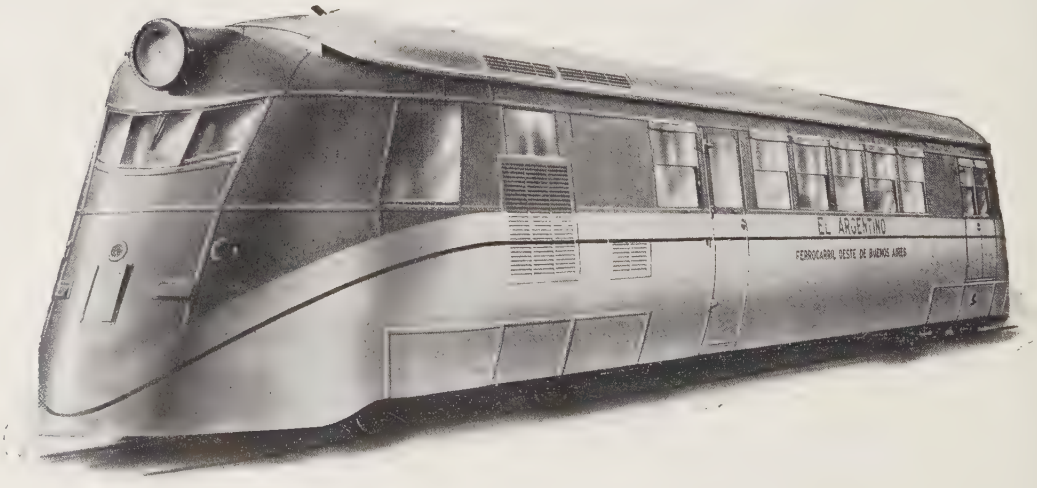
The Birmingham Railway Carriage & Wagon Co. Ltd.

London Office
10, Mayfair Place, W.1

Head Office
Smethwick-England

has under construction in its shops a large number of Diesel Engined Stream-Lined Rail Coaches of various types.

The illustration shewn below is of one of two **Diesel Electric All Metal Light Weight Rail Cars** designed and built by the Company, under the direction of Messrs. Livesey & Henderson, for The Buenos Ayres Western Railway.



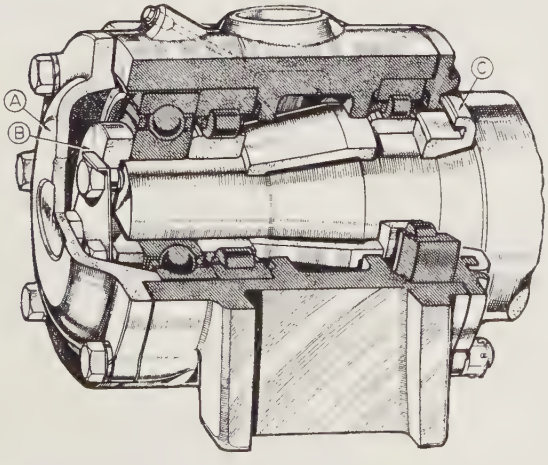
Restaurant car equipped with Hoffmann Roller Bearing Axle Boxes in use on The Ceylon Government Railways, by whose courtesy the photograph is shown.

At home, or far away in Ceylon

HOFFMANN

Roller Bearing AXLE BOXES

are giving reliable service



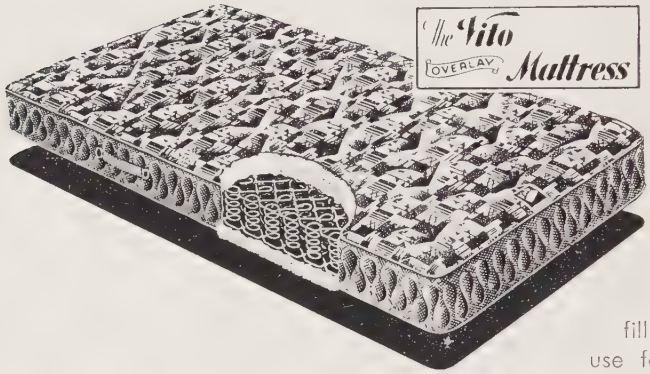
Their simplicity of design allows of easy mounting and dismounting a feature of special appeal. All that portion of the box shaded in the illustration is withdrawable simply by removing end cover A and clamping plate B, leaving the inner races of the roller bearings and thrower C on the axle.

Remounting is just as simple.

THE HOFFMANN MFG. CO. LTD. **CHELMSFORD, ESSEX.**

The 'Vito' Spring

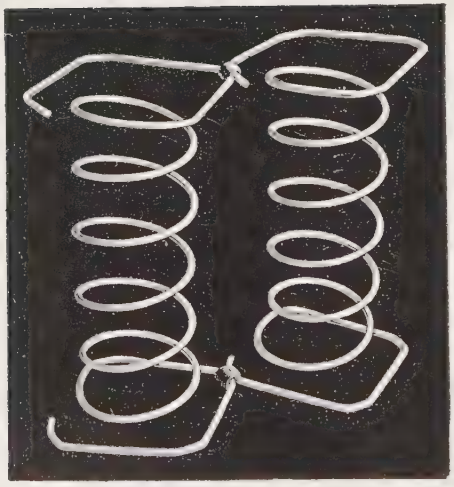
FOR MATTRESSES, CUSHIONS & SEATING



The « VITO » Mattress is made with pre-built borders. It is pliable and can be folded from end to end if desired. Its extreme durability makes it specially suitable for Railway Sleeping Saloons.

The proven reliability for comfort and service of the « VITO » cushion fillings has led to their ever increasing use for Railway Seating. Thousands are now in use on the L. & N. E. Rly., Southern Railway and G. W. Rly. Their great efficiency is rapidly gaining for them a reputation as the standard seatings in the schemes for the improvement and modernisation of the Railways throughout Great Britain.

« VITO » Spring Fillings can be constructed to sustain practically any weight per square foot required, to obtain to a fine degree the particular resiliency desired, and are, therefore, equally suitable for base or top cushions.



Full Particulars on application to Sole Manufacturers :

Vi-Spring Products Ltd.

15, Vi-Spring Works, Victoria Road, Willesden Junction, London, N. W. 10

ECONOMY, RELIABILITY, EFFICIENCY

VICKERS

"V.I."

SINGLE BATTERY SYSTEM

for ELECTRIC LIGHTING OF TRAINS

VICKERS TRAIN LIGHTING CO., LTD

(PROPRIETORS: VICKERS LIMITED)

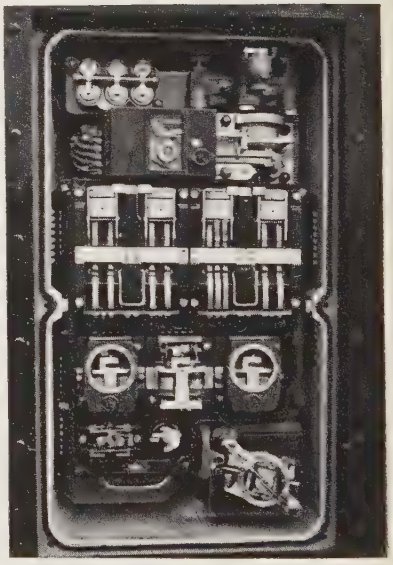
VICKERS HOUSE, BROADWAY, LONDON, S.W.1

Telephone VICTORIA 6900. Telegrams VICTRALITE, SOWEST, LONDON. Cablegrams: VICTRALITE, LONDON

For Automatic Train Control
on the Inductive System —

Knorr Compressed air equipment

The apparatus case on the outside of the driver's cab contains also the Knorr compressed air equipment comprising time-switch, centrifugal speed-checking device, and vigilance, free-handle, permissive, recording and emergency valves. This equipment applies impulses transmitted inductively from the track apparatus to the operation of the compressed air brakes. Automatic braking is applied, if the driver has neglected to press the vigilance button or has not reduced the speed to a prescribed extent, preparing to stop the train at the home signal.



KNORR-BREMSE A-G BERLIN

Bulletin of the International Railway Congress Association

CONTENTS OF THE NUMBER FOR DECEMBER 1939.

1939 621 .133.2 & 669 .3
ull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1059.
KARSTEN (Dr. A.). — Does **copper** still retain its portance **in locomotive construction ?** (2 500 words fig.)

1939 621 .331 (.44)
ull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1065.
DUMAS (J.). — Centrally-controlled **electric trac-on substations** on the Paris-Le Mans line. (7 500 ords & fig.)

1939 62 (01
ull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1080.
ROS (Dr. Ing.). — Investigation into **lattice girders welded steel and reinforced concrete,** undergoing atic stresses and fatigue tests. (1 300 words & fig.)

1939 621 .431.72 (.481)
ull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1085
Fast railcars ordered by the Norwegian State Rail-ays for service on the Oslo-Bergen line. (600 words fig.)

1939 656 .254 (.43)
ull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1087.
New Books and Publications. — Die **Entwicklung nd der Stand der Zugbeeinflussung bei der Deut-chen Reichsbahn** (*Development and present position f automatic train control on the German State Rail-ays*), by Reichsbahnrat KRAUSKOPF. (500 words.)

1939 621 .13 (02 & 621 .137 (02
Bull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1088.
New Books and Publications. — **Leitfaden für den Dampflokomotivdienst** (*Manual for the steam loco-motive staff*), 3rd edition (1939), by L. NIEDER-STRASSER. (200 words.)

1939 621 .431.72 (.43) & 621 .431.73 (.43)
Bull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1088.
New Books and Publications. — Elsners Taschen-Jahrbuch für den **Reichsbahn-Kraftverkehr** (*Elsner's annual handbook for the road and rail motor traffic of the German State Railways*), 1939, 4th year. (250 words.)

1939 388
Bull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1089.
New Books and Publications. — **Urban and Suburban Railways.** Studies of **transport problems** and **network design,** by Paul H. BENDTSEN. (250 words.)

1939 621 .436
Bull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1089.
New Books and Publications. — **The Oil Engine Manual,** by D. S. D. WILLIAMS and J. MILLAR SMITH. (300 words.)

1939 621 .34
Bull. of the Int. Ry. Congress Ass^on, No. 12, Decemb., p. 1090.
Durchhänge und Zugspannungen von Freileitungen — D. Z. Kurve (*Sags and mechanical tensions in electric overhead lines — D. Z. curve*), by F. BESSER. (200 words.)

MONTHLY BULLETIN

OF THE

INTERNATIONAL RAILWAY CONGRESS ASSOCIATION

(ENGLISH EDITION)

PUBLISHING and EDITORIAL OFFICES: 231, RUE ROYALE, BRUSSELS.

Yearly prepaid subscription — **Belgium . . . . . 70 Belgas** / **Other countries . . 75 Belgas** } including postage

Price of this single copy: 8 Belgas (not including postage).

(1 Belga = 5 Belgian francs.)

Subscriptions and orders for single copies (January 1931 and later editions) to be addressed to the General Secretary, International Railway Congress Association, 231, rue Royale, Brussels (Belgium).

Orders for copies previous to January 1931 should be addressed to Messrs. Weissenbruch & Co. Ltd., Printers, 49, rue du Poinçon, Brussels.

Advertisements: All communications should be addressed to the Association, **231, rue Royale, Brussels.**

CONTENTS OF THE NUMBER FOR DECEMBER 1939.

CONTENTS.	Page.
I. Does **copper** still retain its importance in **locomotive construction?**, by Dr. A. KARSTEN	1059
II. Centrally-controlled **electric traction substations** on the Paris-Le Mans line, by J. DUMAS	1065
III. Investigation into **lattice girders of welded steel and reinforced concrete**, undergoing stresses and fatigue tests, by Dr. M. ROS	1080
IV. MISCELLANEOUS INFORMATION:	
Fast railcars ordered by Norwegian State Railways for service on the Oslo-Bergen line	1085
V. NEW BOOKS AND PUBLICATIONS:	
Die **Entwicklung und der Stand der Zugbeeinflussung bei der Deutschen Reichsbahn** (*Development and present position of automatic train control on the German State Railways*), by Reichsbahnrat KRAUSKOPF	1087
Leitfaden für den Dampflokomotivdienst (*Manual for the steam locomotive staff*), 3rd edition (1939), by L. NIEDERSTRASSER	1088

CONTENTS (*continued*)	Page.
Elsners Taschen-Jahrbuch für den **Reichsbahn-Kraftverkehr** (*Elsner's annual handbook for the road and rail motor traffic of the German State Railways*), 1939, 4th year	1088
Urban and Suburban Railways, by Paul H. BENDTSEN	1089
The Oil Engine Manual, by D. S. D. WILLIAMS and J. MILLAR SMITH	1089
Durchhänge und Zugspannungen von Freileitungen — D. Z. Kurve (*Sags and mechanical tensions in electric overhead lines — D. Z. curve*), by F. BESSER	1090
VI. MONTHLY BIBLIOGRAPHY	167
VII. Analytical table of articles according to the decimal classification	1 to 10
VIII. Contents of the XXIst year of the English edition	I to VII

LIBRARY

OF THE

Permanent Commission of the International Railway Congress Association.

READING ROOM : **231, rue Royale, Brussels.**

Works in connection with railway matters, which are presented to the Permanent Commission, are mentioned in the « Bulletin ». They are filed and placed in the library. If the Executive Committee deems it advisable they are made the subject of a special notice. Books and publications placed in the reading room may be consulted by any person in possession of an introduction delivered by a member of the Association. Books, etc., may not be taken away except by special permission of the Executive Committee.

The Permanent Commission of the Association is not responsible for the opinions expressed in the articles published in the Bulletin.

All original articles and papers published in the BULLETIN are copyright, except with the consent of the Authors and the Committee.

Editions in **French** and in **German** are also published.

Alphabetical Index of Advertisers

Firms :		Specialities :
Armstrong Oiler Co., Ltd. (The)	XXIII	Lubricators.
Ateliers de Constructions Electriques de Charleroi	—	Electric train lighting. Electric signalling.
Ateliers de Construction de la Meuse	XXIV	Locomotives.
Ateliers de la Dyle	—	Railway and Tramway rolling stock.
Bayliss, Jones & Bayliss, Ltd.	—	Railway fastenings, rail screws, etc.
Birmingham Ry. Carriage & Wagon Co.	XIII	Railway rolling stock.
Bonnel (1924), Ltd. (W. A.)	—	Cemented waterproof. Sleepers, crossings, etc.
Brugeoise et Nicaise & Delcuve (La)	—	Railway rolling stock and fixed equipment.
Cockerill & Co. (John)	XIX	Iron and steel in all forms.
Coltness Iron Co., Ltd.	XXIV	Locomotive steel castings.
Cowans, Sheldon & Co., Ltd.	III	Vacuum power locomotive turning gear.
Demag, A. G.	VIII	Special Cranes and Lifting Appliances.
Deutsche Getriebe.	—	Mylius transmission for Railcars.
Docker Brothers	—	Varnishes, Japans, Fine colours, etc.
English Electric Company, Ltd. (The)	X	Railway electrification.
Gresham & Craven, Ltd.	—	Mercury arc rectifiers.
Guest, Keen & Nettlefolds, Ltd.	XXI	Screws.
Henricot Steel Foundry (The)	XXII	Steel Castings for Railways.
Hoffmann Mfg. Co., Ltd. (The)	XIV	Bearings.
Kaye & Sons, Ltd. (Joseph)	—	Seamless steel oil feeders.
Knorr-Bremse, A. G.	XVII	Air brakes, feedwater heaters, etc.
Lightalloys, Ltd.	XXI	Aluminium alloys in all forms.
Maybach-Motorenbau, G.m.b.H.	VI	Power sets for Diesel Railcars.
Metropolitan Cammel Carriage Wagon & Finance Co., Ltd.	VII	Rolling stock of all kinds.
Metropolitan Vickers Electrical Co., Ltd.	XI	Railway-Electrification.
Samuel Fox & Co. Ltd.	—	Piston rods and crossheads.
Société Commerciale d'Ougrée	—	Patented steel sleepers.
Spencer-Moulton & Co., Ltd. (George)	XXVII	India rubber springs of all kinds.
Steel, Peech & Tozer.	—	« C. P. » Tyres.
Still & Sons, Ltd. (W. M.)	—	Kitchen and service equipment.
Stone & Co., Ltd.	IX	Railway specialities of all kinds.
Superheater Company (The), London	—	Superheaters for locomotives and multiple valve regulator headers.
Superheater Company (The), New York.	XX	Steam superheaters for locomotives, marine, etc.
Taylor Bros & Co., Ltd.	XII	Wheels and axles.
Turton Brothers & Matthews, Ltd.	XXV	Timmis Double-Web spiral steel springs.
United Steel Companies, Ltd. (The)	—	Steel sleepers, steel for all purposes.
Vacuum Brake Co., Ltd.	—	Air brakes.
Vereinigte Eisenbahn-Signalwerke	IV	Railway signalling.
Vickers Train Lighting Co., Ltd.	XVI	Train lighting dynamos and equipment.
Vi-Spring Products, Ltd.	XV	Seat springs.
Wakefield & Co., Ltd.	V	Mechanical lubricators ; oils for all purposes.
Westinghouse Brake & Signal Co., Ltd.	II	Railway signalling. Brakes. Heating systems.
Wild & Co. (A. G.)	XXII	Railway supplies, steam heating, etc.
Willford and Company, Ltd.	XXIII	Railway springs and for all their purposes.
Workington Iron & Steel Cy.	—	Acid Bessemer steel rails.

JOHN COCKERILL'S SHIPYARD

HOBOKEN

BELGIUM

M. S. "PRINS ALBERT" THE FASTEST MOTORSHIP AFLOAT

CROSS - CHANNELS and FERRIES

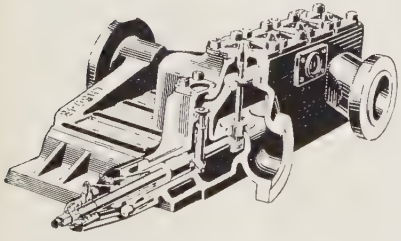
A SPECIALITY

Serving the Superheating Requirements of the World's Railways

Integrally Forged Return Bends

Machine-forged from the tubing itself, yet stronger at the bend where strength is most needed. Provides constant area through the bend; with smooth internal and external surfaces—avoiding restriction of steam through units or accumulation of soot, ashes or cinders.

Multiple-valve Throttle-headers



A finger-type header with multiple-valve throttle or regulator contained in the casting. Without changing smokebox arrangement this throttle-header offers distinct advantages: Steam is controlled between the superheater and cylinders; superheated steam is always available for auxiliaries; use of a series of small valves opening and closing consecutively gives better and quicker control of locomotive movements.

Through a coordinated service with associated organizations in Great Britain, France, Germany, the United States, Canada, and Australia, the railways of the world are served with locomotive superheating equipment, that conforms to a general standard of practice, yet is adapted to the particular requirements of each individual country.

A distinguishing characteristic of the locomotive superheaters manufactured by these associated companies is the exclusive use of return bends, integrally forged with the tubing to form the loops of the superheater elements or units. These bends are machine-forged without utilizing either additional material or a flux. Railroads the world over have standardized on locomotive superheaters with these integrally-forged return bends. They have been applied to more than 100,000 locomotives.

These associated companies, as a result of constant development and research, and interchange of combined experience in modern railroading, offer improved superheating equipment to meet the changing conditions of locomotive operation. An outstanding recent development, now being adopted rapidly for every class of locomotive service, is the multiple-valve throttle-header.

THE SUPERHEATER COMPANY

60 East 42nd Street, New York, N. Y., U. S. A.

ASSOCIATED COMPANIES:

The Superheater Company, Limited
Dominion Square Bldg., Montreal, CANADA

Compagnie des Surchauffeurs
Rue la Boëtie 3, Paris, FRANCE

ELESCO

The Superheater Company Limited
Bush House, Aldwych, London, W. C. 2, ENGLAND

Schmidt'sche Heissdampf-Gesellschaft, m. b. H.,
Rolandstrasse 2, Cassel-Wilhelmshöhe, GERMANY

The Superheater Company (Australia) Limited
Manchester Unity Building, 185 Elizabeth Street, Sydney, N. S. W.

Agencies Throughout the World

A-914

NETTLEFOLDS SCREWS

Standard quality all over the world

TRADE MARK

GUEST, KEEN & NETTLEFOLDS, LIMITED,
BIRMINGHAM -- ENGLAND

Three - Car Unit for L.M.S. Wirral Electrification.

By courtesy of W. A. Stanier, Esq., and L.M.S. Railway.

ALL
THE EXTERNAL
SLIDING AND HINGED DOORS
FOR THE NEW STOCK
built by Metropolitan-Cammell Carriage & Wagon Co. Ltd., and
The Birmingham Railway Carriage & Wagon Co. Ltd.
FOR THE
L.M.S. WIRRAL ELECTRIFICATION
WERE MANUFACTURED BY

Alpax Works,
St. Leonards Road,
Willesden Junction,
London, N.W.10.

LIGHTALLOYS LIMITED

Telephone :
Willesden 3460-1-2.

Telegrams :
Lytalloys, Phone, London.

We specialize in Aluminium Alloy, Louvres, Sliding Lights, Window Frames, Mouldings, Electric Junction Boxes, Seat Ends, Frames and Pedestals, Interior and Exterior Fittings, Traction Motor Gear Cases, Steam and Vacuum Hose Couplings.

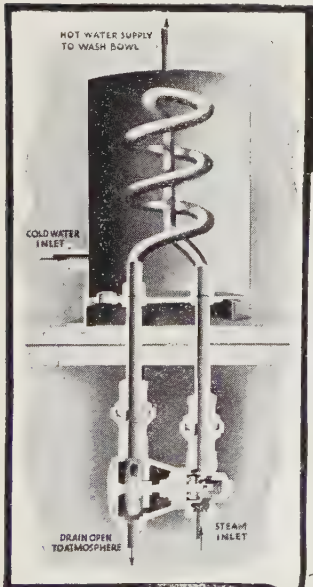
Better resistance to dynamic forces !

by the use of
CAST STEEL
underframe ends

Advantages :

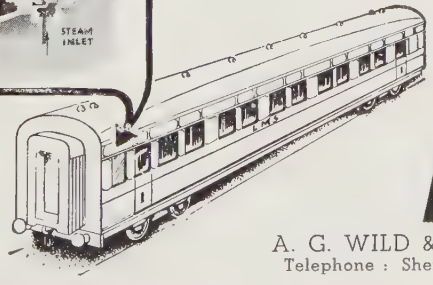
1. adequate grade of steel;
2. adequate analysis;
3. adequate physical properties;
4. accessory parts cast integral;
5. reduced dead weight;
6. elimination of notch effect;
7. equal repartition of strain throughout casting.

HENRICOT STEEL FOUNDRY
Suffolk House, Cannon Street, LONDEN E.C.4
Works at COURT-SAINT-ETIENNE (Belgium)



HOT WATER SUPPLY *in* LAVATORIES

Installation of this apparatus ensures a constant supply of water to the wash bowl, heated by a branch from the steam heating train pipe to a comfortable temperature.
No boiling and consequently no evaporation takes place, because the steam is supplied through one of our patent thermostatic control valves.
The approval of passengers is assured and at low cost for both installation and maintenance.



We shall be pleased to send our catalogue of all rolling stock equipment on request.

Equipment by

WILDS

A. G. WILD & CO. LTD. CHARLOTTE RD., SHEFFIELD
Telephone : Sheffield 23038. Telegrams : Radiate Phone Sheffied

dm 215

Telegraphic Address : OILER, YORK Code used : ABC 5th Edition Telephone : 2946

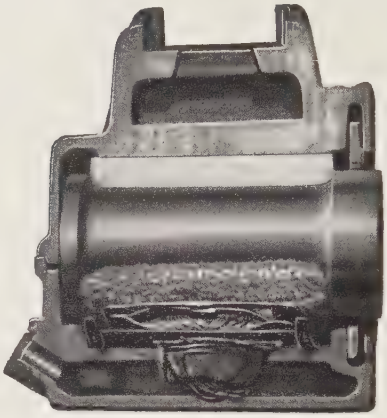
THE ARMSTRONG OILER Co, Ltd. YORK

Patentees and manufacturers of **The « ARMSTRONG » Oiler**

Silver Jubilee fitted throughout

For lubricating
All Types of Railway
and Tramway Journals

Efficient and Perfect
in Every Detail

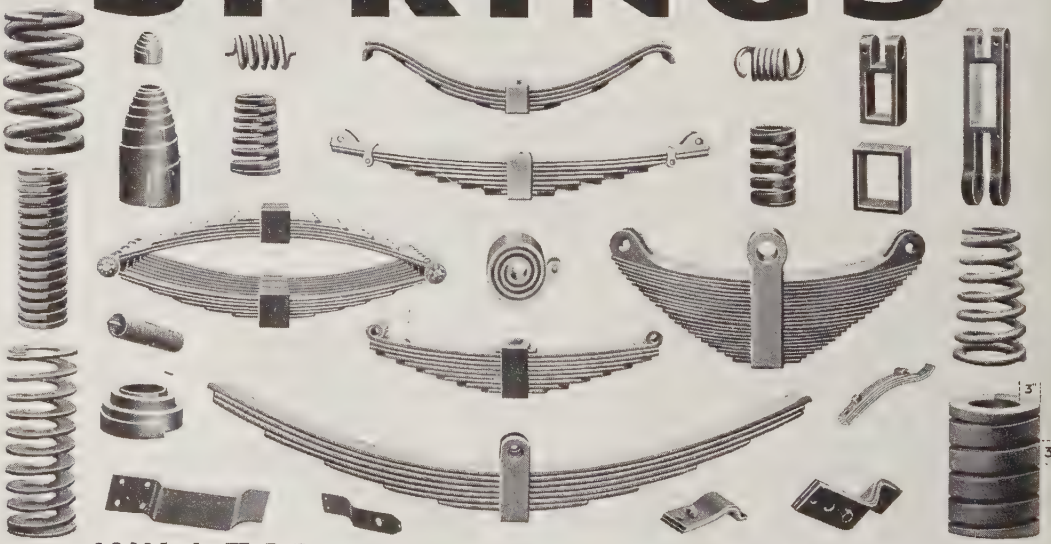


WATER PROOF
OIL PROOF
DUST PROOF
FOOL PROOF

" ARMSTRONG OILER " fitted with Oil Seal for tip Wagon Axle Boxes

SAMPLE SETS FOR TRIAL SUPPLIED FREE OF CHARGE

SPRINGS



WILLFORD & COMPANY LIMITED,

ESTABLISHED 1890

PARK HOUSE WORKS, SHEFFIELD.

LONDON OFFICE.
34, Victoria Street,
Westminster, S.W 1.

Telephone: 21114 SHEFFIELD.
Telegrams: "AUDAX, 'PHONE, SHEFFIELD."
Code: BENTLEYS

ALSO AT
BURNBANK WORKS,
DENNISTOUN, GLASGOW.

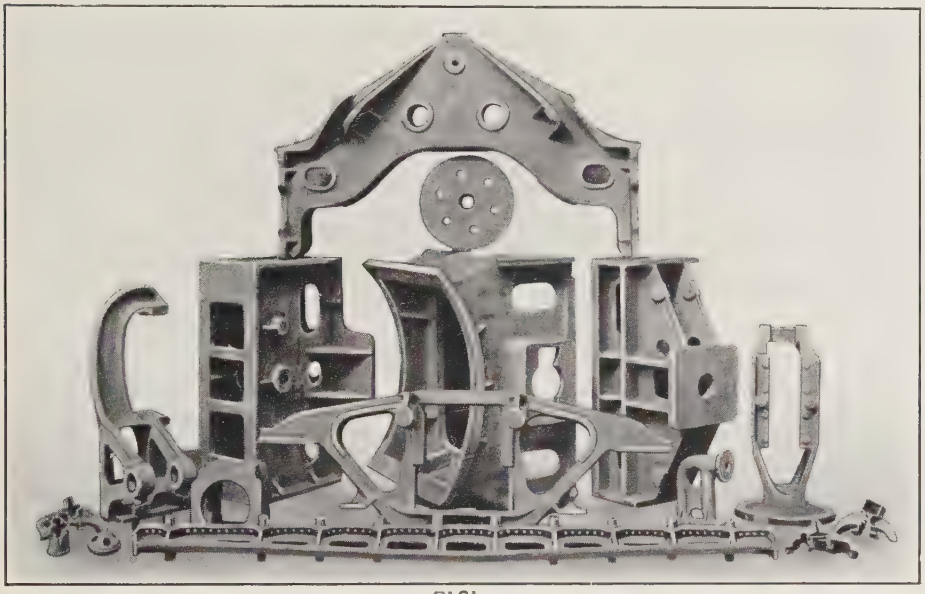
CONTRACTORS TO THE LEADING BRITISH, INDIAN, SOUTH AMERICAN AND COLONIAL RAILWAYS.
MODERN PLANT, SERVICES OF FIRST CLASS DESIGNING STAFF AVAILABLE.

COLTNESS IRON CO. LTD.

NEWMAINS, LANARKSHIRE, SCOTLAND.

WE SPECIALIZE IN LOCOMOTIVE STEEL CASTINGS

Wheel Centres, Domes, Piston Heads, Horn Blocks, Axle Boxes, etc., of which we are the largest Makers in Great Britain.
Steel Castings up to 10 tons - Iron Castings up to 50 tons



9' 2'

WORKS
NEWMAINS
Telephones
212 - 213
214 - 215
WISHAW
Telegraphic
Address
"COLTNESS"
NEWMAINS

HEAD
OFFICE
36, Robertson St.
Glasgow, c 2
Telephone
Central
9584
Telegraphic
Address
"COLTNESS"
GLASGOW

LONDON OFFICE : 10, IDDESLEIGH HOUSE, WESTMINSTER S. W. 1

TURTON BROTHERS & MATTHEWS, LIMITED.

SHEFFIELD

TRADE MARK

PILOT

SOLE-MAKERS OF THE

TIMMIS' DOUBLE-WEB

High-class steel springs for all purposes

The « **PILOT BRAND** » springs are made only of the highest quality of material. The greatest skill is used in their manufacture. They are finished with the greatest accuracy. They are made in **SHEFFIELD**

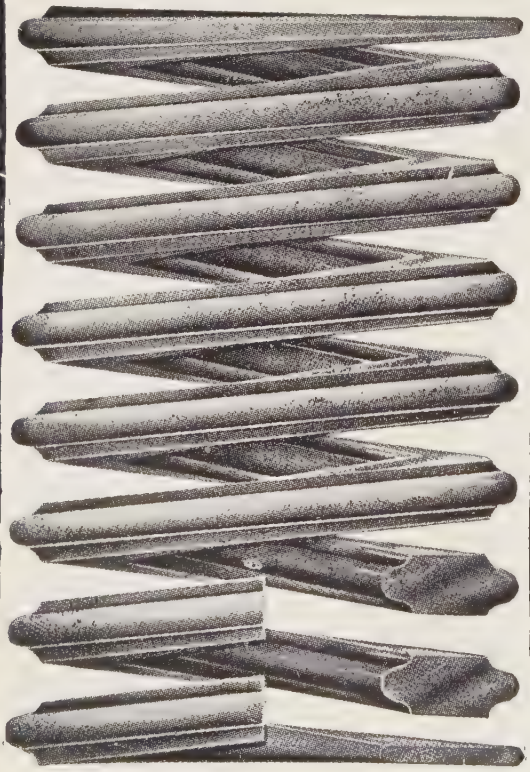
They will outlast any other springs as has been proved by over 50 years of experience.

Instances have been brought to our notice of springs being in service for over 30 years, and even then some were unbroken.

These springs are, therefore, suitable for Railway Rolling Stock where a very high standard is insisted on. They are especially suitable for Carriage Bolster Bearing Springs where ease and steadiness in running as well as reliability are essential.

They are in use on the **LONDON & NORTH EASTERN RAILWAY, LONDON MIDLAND & SCOTTISH RAILWAY** and **SOUTHERN RAILWAY** and many other Railways.

The famous Silver Jubilee Train of the L. & N. E. R. is fitted throughout with these springs.



FOR ALL

Advertising

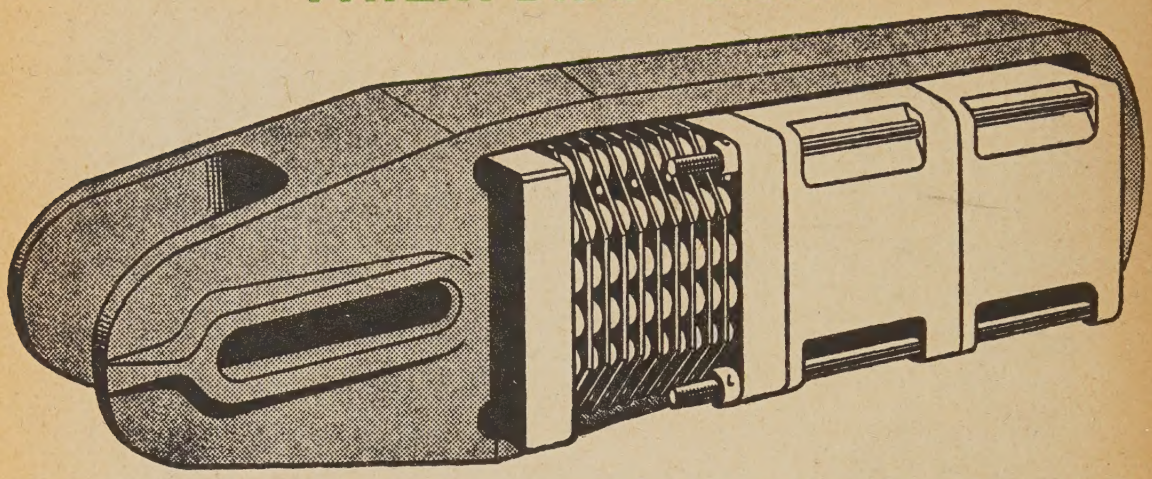
in this Bulletin apply to the

International Railway Congress Association

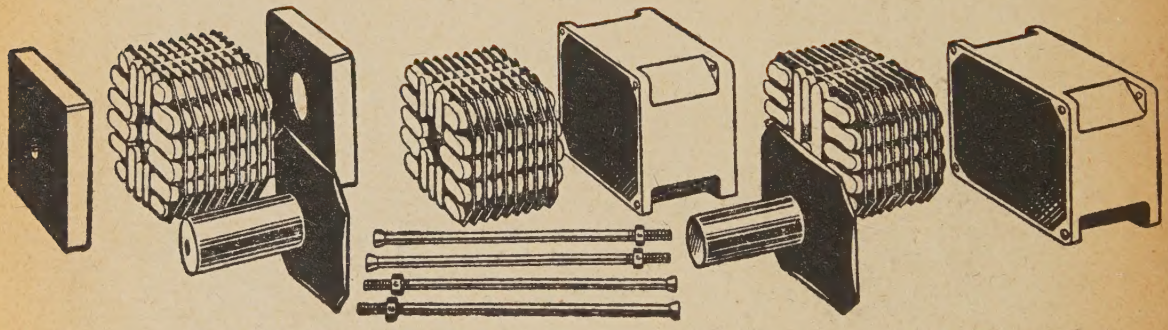
Brussels, 231, rue Royale

SPENCER-MOULTON

PATENT DRAFT GEAR



AS USED IN YOKES ON SOUTH AFRICAN RAILWAY WAGONS



RUBBER SPRINGS WITH STEEL PARTS BEFORE ASSEMBLY

GEORGE SPENCER MOULTON & CO., LTD.,

2, Central Buildings, Westminster, London, S. W. 1

SOCIÉTÉ FRANÇAISE DES CAOUTCHOUCS SPENCER MOULTON

11, rue du Gazomètre, Rueil (S. & O.)

Argentina : Percy Grant & Co. Ltd., Edificio Britanico, Calle Reconquista 314, Buenos Aires(1)
Belgium : J. Galler, L, rue de la Science, Brussels
Brazil : M. Almeida & Co., rua Boa Vista, 10, Sao Paulo
Denmark : A/S Frichs, Post Box No. 115, Aarhus
Holland : Koopman & Co., Gebouw « Atlanta » Stadhouderskade, 6, Amsterdam W.
India : George Spencer Moulton & Co. (India) Ltd., 8, Esplanade East, Calcutta
Sweden : Svenska Ackumulator Aktiebolaget Jungner, Riddargatan 17, Stockholm 7
Switzerland : O. L. Borner, Limmatquai, 3, Haus Bellevue, Zurich 1.

M. WEISSENBRUCH
S. A. – BRUXELLES

PRINTED IN BELGIUM